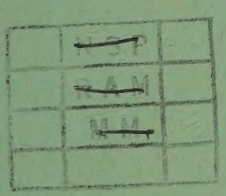
REPORT

on the working of the

DEPARTMENT OF AGRICULTURE AND FISHERIES

for the year

1970



MALTA
DEPARTMENT OF INFORMATION
1972

Price 2s/9d

DEPARTMENT OF AGRICULTURE
AND FISHERIES
14, Scots Street,
Valletta.

1st December, 1971

Sir,

I have the honour to transmit to you herewith my report on the working of the Department of Agriculture and Fisheries during 1970.

I have the honour to be,

Sir,

Your obedient servant,

(A.S. FARRUGIA)
Director of Agriculture
and Fisheries

The Honourable,
Minister of Trade,
Industry, Agriculture
and Tourism

CONTENTS

Chapter		Page
I	Introduction	1
II	Organization, Administration and Finance	4
III	Financial Aid	9
IV	Advice, Technical Assistance and Services	12
V	Experiments	15
VI	Land, Soil and Water	29
VII	Marketing	31
VIII	Public Gardens, Nurseries and Afforestation	33
IX	Government Experimental Farm	35
X	Viticulture and Enology	38
XI	Veterinary Services	40
XII	Co-operative Societies	45
XIII	Fisheries	47
XIV	Gozo Section	51

Table

1 Weights and Measures
2 Farm Population and Land Distribution (1961-69)
3 Agriculture Production Account (1961-1969)
4 External Trade of Agricultural Products (1961-1970)
5 Imports of Seed Potatoes (1964-1970)
6 Exports of Potatoes (1948-1970)
7 Exports of Onions (1948-1970)
8 Sales through Pitkali Markets - Vegetables(1968-197
9 Sales through Pitkali Markets - Fruits (1968-1970)
10 Price and Quantity Index of Vegetables
11 Price and Quantity Index of Fruits
12 Yearly Enumeration of Livestock (1957-1969)
13 Stock of imported cattle during 1970
14 Number and Weight of animals slaughtered during 197
15 Animals slaughtered at Government Abattoirs (1961-7
16 Diseases and other causes of unsoundness of meat during 1970
17 Vaccination of Pigs and Inoculation of Poultry (1966-1970)
18 Landings of Fresh Fish by Local Boats (1959-1970)
19 Fish caught during 1970 (in rotoli)
20 Availability and Prices of Fresh Fish (1969-1970)
21 Financial Assistance to Farmers under Act II of 1956 (1956-1970)
22 Financial Assistance to Fishermen under Act II of 1956 (1956-1970)
23 Ordinary and Special Expenditure (1965-1971)
24 Capital Expenditure (1959-1971)
25 Revenue (1965-1971)
26 Staff as on 31st December, 1970

I INTRODUCTION

The Maltese Islands

The Maltese Archipelago, consisting of the Islands of Malta, Gozo, Comino, Cominotto and Filfola, is situated in the middle of the Mediterranean Sea.

At the extreme points the Maltese Islands fall within the following positions:

North Latitude - 36° 57'
South Latitude - 35° 48'
East Longitude - 14° 35'
West Longitude - 14° 11'

The total area is 121.85 square miles of which Malta occupies 94.876 square miles and Gozo 25.899 square miles. Malta extends for a maximum distance of about 17 miles from South East to North West with the greatest width of about 9 miles. The corresponding figures for Gozo are 9 and 4½ miles.

The length of the shoreline round Malta is 85 miles and that round Gozo is 26½ miles. The coast-line of Malta is well indented, particularly on the east, north-east and south-east sides.

The climate of the Maltese Islands is of the Mediterranean type. The Islands enjoy moist, mild winters and dry hot summers. Total rainfall in 1970 was 16.92 inches as against 30.2 inches in 1969.

The population in 1970 was 322,000.

The Farming Community

In 1969 there were 5,515 wholetime and 8,738 part-time farmers as against 5,921 and 8,410 respectively in 1968. Wholetime farmers amounted to 5.5 per cent of the gainfully occupied population (about 100,000).

The age structure of the wholetime farmers was as follows:

	Males	Females
19 years and under	561	105
20 - 39 years	939	257
40 - 59 years	1,616	181
60 years and over	1,779	77
	4,895	620

The farm population (wholetime and part-time farmers and their dependants and relatives, who live in the same household although they may not earn their income from the agricultural sector) was 47,706 in 1969. Out of this total 11,925 earned income from other sectors of the economy, but many of them were registered as part-time farmers.

Agricultural Land

The area of agricultural land reported in 1969 was 141,449 tmien.

Holdings were as follows:

	Holdings	Area
Full ownership	1,014	6,131 tmien
Mixed ownership	1,782	38,948 tmien
Rented	7,922	96,370 tmien

6,143 of these holdings were under 10 tmien in size. Only 347 holdings were 50 tmien or over in size.

Glasshouses

In 1970 there were 382 glass and polythene houses in Malta and 43 in Gozo.

Agricultural Production

Total agricultural production in 1969 was £9,400,000 as against £8,800,000 in 1968. The share of agriculture in Gross Domestic Product was 7.2% both in 1968 and 1969.

Total Production was made up as follows:

	Value £	Quantity
Cereals	594,000	28,331 tons
Vegetables and Fruits	2,699,000	7,139 tons
Flowers and Seeds	325,000	-
Milk	1,406,000	5,692,000 galls.
Eggs	1,117,000	6,327,000 doz.
Meat	3,137,000	8,546 tons
Hides, skins, wool and tallow	50,000	322 tons
Inc./Dec. in value of Livestock	-11,000	

Agricultural Machinery

The following agricultural machinery was in use:

	1968	1969
Two-wheeled power units	1,653	1,914
Three-wheeled power units	59	75
Four-wheeled power units	31	35
Tracked power units	21	19
Grinding and Mixing Machines	26	10
Milking Machines	24	16
Threshers	13	10
Sprayers - hand operated	507	460
Sprayers - motor driven	410	504
Windmills	287	355

Livestock

The livestock population consisted in 1969 of about 9,000 heads of cattle, 9,000 sheep, 19,000 goats, 31,000 pigs, 700,000 poultry birds and rabbits and 4,500 horses, mules and donkeys.

Fisheries

In 1970 landings of fresh fish by local boats amounted to 1,142 tons which sold at a first sale value of £378,266.

The number of fishermen in 1970 was about 460.

Fishing Boats

There were 961 fishing boats in 1970, made up as follows:

Trawlers	9	
Motor fishing vessels	26	
Luzzus	335	(whereof 16 not power propelled)
Firilli	41	(" 7 " " ")
Caiques	367	(" 77 " " ")
Others	183	(" 79 " " ")

Earnings of Farmers and Fishermen

The average earnings of farmers from 1967 to 1969 were as follows:

1967 - £441
1968 - £529
1969 - £637

The average earnings of fishermen from 1967 to 1969 were as follows:

1967 - £281
1968 - £318
1969 - £355

II ORGANIZATION, ADMINISTRATION AND FINANCE

Functions

The main functions of the Department are:

(a) The increase and improvement of land produce and livestock by (i) financial aid (ii) advice and technical assistance, and (iii) experiments.

(b) The increase of fish supplies by (i) financial aid (ii) advice and technical assistance and (iii) experiments.

(c) The provision of marketing facilities.

(d) Public Gardens

(e) Afforestation

(f) The control and eradication of diseases in plants and animals.

(g) The control of the slaughter of animals for meat.

(h) The control of wine production

(i) The control of the use of soil and water (for irrigation purposes)

(j) Registration of farmers and agricultural land.

(k) Assisting and supervising Co-operative Societies.

Organization

The Department is divided into the following seven Divisions:

1. Administration and Finance
2. Marketing
3. Veterinary Services
4. Animal Production
5. Plant Production and Protection
6. Fisheries
7. Co-operatives

Head Office

On April 30, 1970, the Head Office of the Department moved from its old premises at 53 and 93 Archbishop Street, Valletta, to a far better and more suitable premises at 14, Scots Street, Valletta.

Golden Jubilee

On 1st April, 1970, the Department was fifty years old.

To mark the event the Department published a special issue of its periodical "L-Agrikoltura" wherein there were included, among other things, biographical notes on and writings by all the previous Directors and the present Director.

Staff

The Staff of the Department on 31st December, 1970 was 602.

Staff Training

The following Officers continued their studies abroad during, 1970:

(a) Messrs Joseph Borg, Carmelo Serracino Inglott, Victor Farrugia, Joseph Cremona and Francis Saliba in U.K. to obtain the National Diploma in Horticulture.

(b) Mr. David D'Andria in U.K. to obtain a degree (B.Sc) in Zoology.

(c) Mr. George Carbone in U.K. to obtain a degree (B.Sc) in Plant Pathology.

(d) Mr. Carmelo Vella in U.K. to become Veterinary Surgeon.

Mr. Carmel Libreri, D.P.A., B.A. (Econ) returned from Geneva where he attended a study course in export promotion organized by the Economic Commission for Europe.

During August/September, Mr. R. Formosa, Senior Inspector of Co-operatives, attended a two month course in Cyprus in Management of Co-operatives.

During September/October Mr. A. Scicluna Spiteri, Agricultural Chemist, visited Germany on a four week study tour at the invitation of the German Government. He visited agricultural laboratories and sewage reclamation plants and agricultural and horticultural establishments.

In December, Mr. A. Scicluna-Spiteri attended the 4th Seminar on the Techniques of Agricultural Extension held at Borgo a Mazzano, Italy, at the invitation of the Shell Company Ltd.

Mr. J. Muscat, Laboratory Attendant, left in October to attend a one year training course in Germany to study laboratory techniques. The course was sponsored by the German Government.

Mr. Alfred Conti Borda left for U.K. in September, 1970 to start his studies for the College and National Diplomas in Agriculture.

Conferences Abroad

The Director attended the European Conference for the Conservation of Nature and Natural Resources at Strasbourg, France, between 9th and 12th February, 1970.

Mr. Peter Calamatta, Horticulturist, attended the 18th International Horticultural Congress at Tel-Aviv, Israel, between 17th and 25th March, 1970.

Mr. A. Scicluna Spiteri, Agricultural Chemist, attended the 4th Session of the Working Party on Water Resources and Irrigation of the European Commission on Agriculture held in Tel-Aviv, Israel, in May/June, 1970.

In June, 1970, Mr. Louis Cilia, Higher Executive Officer, attended the 9th Session of the European Committee for the Conservation of Nature and Natural Resources at Strasbourg.

Mr. J. Debattista, Principal Technical officer, attended a Conference in Agricultural Education and Training which was held in Copenhagen, Denmark, between 28th July and 8th August, 1970.

The Director attended the 7th FAO Regional Conference for Europe held in Budapest, Hungary, between 21st and 24th September, 1970.

Foreign Advisers and Assistants

The following advisers and assistants were in Malta during the whole year.

(a) UNDP/FAO Horticulture and Demonstration Project:

Mr. Giovanni B. Mazzocchi - Project Manager
Mr. E. Collingwood - Plant Protection Specialist
Mr. Eric Le Tissier - Greenhouse Management Technician
Dr. D. Link - Marketing Expert

(b) Other Advisers and Assistants:

Dr. Lelio Durante - Agronomist - Italy
Mr. Julius Obermaier - Fertilizers - West Germany
Miss Elke Debus - Assistant to Mr. Obermaier - West Germany

(c) Veterinary Surgeons Seconded by the Italian Government

Dr. Clodoveo Capitoli

(d) British Corps of Volunteers:

Miss J. Bryant - Plant Pathologist - U.K.

(e) W.F.P. Dairy Project

Mr. K. Koster - Dairying - Holland

The following foreign advisers and assistants left during 1970:

Dr. Mario Bartolucci - Veterinary Surgeon - Italy

Mr. R. Siddal - Greenhouse Production Specialist - (UNDP)

Mr. Guy Spoiden - Greenhouse Management Technician - (UNDP)

Mr. Moshe Allon - Afforestation and Tree Planting Adviser - Israel

Dr. Gracco Denardo - Sea Food cultivation - Italy

Mr. D. A. Lintern - Fisheries - U.K.

Miss J. Wilkinson - Plant Protection - British corps of Volunteers

Mr. R. Hunt - Soil Analysis - British Corps of Volunteers

Mr. K. Arp - Fertilizers - West Germany

Dr. C. Cervi - Fruiticulture - Italy

Dr. G.G. Alton, an expert in animal brucellosis, carried out a survey of progress made in eradication of animal brucellosis during August/November, 1970.

General Agricultural Survey

During 1970 a FAO Team carried out a General Agricultural Survey of Malta. The following experts participated in the Survey: Professor A. Paulson, Professor K. Dodds, Mr. D. Link, Mr. K. Koster, Dr. L.W. Fitzgerald, Mr. V.W. Bruce, Mr. A. Mc Callum and Mr. I.D. Richardson. The work of these experts was co-ordinated by Mr. L.B. Kristjanson.

Boards and Committees

The Department was assisted in its work by the following Boards and Committees:

(a) The Fresh Fruit, Vegetables and Fish Advisory Board

(b) Wine Advisory Board (appointed in terms of sections 15 and 16 of Act No. IX of 1969)

(c) Fisheries Board

(d) Horticulture Advisory Board

(e) Bee Advisory Committee

(f) Food Advisory Board composed of the following Committees

(i) The Poultry Industry Technical Committee

(ii) The Meat Industry Technical Committee

(iii) The Milk Industry Technical Committee

(iv) The Pig Industry Technical Committee

(v) The Animal and Bird Fodder Industry Technical Committee

Legislation

The following Regulations were enacted in 1970:

(a) The Preservation of Fertile Soil Regulations, 1970

(b) The Slipway (Use) Regulations, 1970

(c) The Agricultural Produce (Marketing) (Amendment) Regulations, 1970

(d) The Agriculture (Plant Protection) Act (Second Schedule) (Amendment) Regulations, 1970

(e) The importation of Animals and Feeding Stuff (Prohibition) Regulations, 1970

(f) The Wine Regulations, 1970

(g) The Agriculture (Plant Protection) Act (Schedules Amendment) Regulations, 1970

(h) The importation of Animals and Feeding Stuff (Prohibition) (Amendment) Regulations, 1970.

Expenditure

The actual expenditure in the financial years 1969/70 and 1970/71 was as follows:

Ordinary Expenditure:	1969/70	1970/71
Personal Emoluments	172,705	205,053
Other Charges	287,976	297,406
Special Expenditure	20,244	14,513
	480,925	516,972
Capital Expenditure	260,769	258,000
Total	£741,694	£774,972

Revenue

The actual revenue collected was £120,474 in 1969/70 and £130,995 in 1970/71.

Below the Line Accounts

The Department received £1,814,796 and paid £1,674,854 in 1970/71 in connexion with Below the Line Accounts (Pitkali, Sorghum Scheme, etc.)

III FINANCIAL AID

Farmers, fishermen and livestock breeders are given financial aid in order to enable them to increase their production.

The assistance is regulated by the Agriculture and Fishing Industries (Financial Assistance) Act, 1956 and by the relative Arrangements for the provision of Financial Assistance (Government Notice No. 19 of 1959) as amended.

The assistance granted to farmers is in the form of 60% loan at 6% interest and 40% grant.

In 1970 the following assistance was given to farmers:

Purpose	No of beneficiaries	Loans £	Grants £	Total £
Rotary cultivators	86	18,791	12,513	31,304
Overhead irrigation equipment	19	3,101	2,066	5,167
Glasshouses	36	34,364	22,919	57,283
Troughs for glasshouses	1	399	266	665
Turkey Farm	1	2,298	1,531	3,829
Repairs to farmhouses	8	959	639	1,598
Construction of and repairs to water reservoirs	9	2,400	1,600	4,000
	160	62,312	41,534	103,846

In 1970, the following financial aid was given to fishermen in the form of loans at 1% interest and grants.

Purpose	No of beneficiaries	Loans £	Grants £	Total £
Construction of large craft	4	12,465	7,397	19,862
Fishing equipment and Repairs	1	746	447	1,193
Modification to craft and construction of smaller boats	6	5,761	3,456	9,217
	11	18,972	11,300	30,272

The majority of the repayments of loans and interest thereon were made by fishermen by the deduction of 10% or 5% from the sales of the fish catches.

Subsidies

In 1970 wheat offals sold to livestock breeders were subsidised by £84,721. Government has been subsidising prices of wheat offals since the last war.

The following subsidies were given to the associations indicated:

Malta Horticultural Society	£120
Agrarian Society	750
Malta Rabbit Club	100
Gozo Agricultural and Industrial Society	350
Malta Horse Show	100
R.S.P.C.A. (Malta Branch)	220

Co-operatives were given £9,239 in 1970, being contribution towards marketing expenses. The subsidy is calculated at the rate of -/10½d per £1 of fruit and vegetables sold.

Fishing equipment purchased by fishermen was subsidised by £630. 4s. 10d.

Fishermen are refunded the duty payable on diesel oil and petrol purchased for their fishing vessels. The sum refunded to fishermen in 1970 was £3,043.

The owners of viticulture sub-stations were given a subsidy of £16 in 1970.

A premium is given to approved livestock breeders for keeping pedigree animals for breeding purposes. £231 were paid to them in 1970.

Sorghum Scheme

In accordance with the agreement between the Government of Malta and the F.A.O. World Food Programme sorghum supplied by the latter was sold to pig breeders at a subsidised price of about 25% below the market price

Proceeds from the sale of the sorghum are used for the development and modernisation of the Pig Industry.

The final consignment of sorghum under the Scheme was received in October, 1969.

In 1970, £15,000 were given to five beneficiaries (in loans and grants) to enable them to construct model piggeries.

The Department pays a premium to breeders of Grade A pigs slaughtered at the Malta Bacon Factory. In December, 1970, the premium was increased from 13/- to 16/8 per qantar. The scheme was extended to Gozo in November, 1970. During the year under review £3,444. 13s. 4d. were paid in respect of pigs slaughtered at the Malta Bacon Factory and £104. 4s. 10d. in respect of pigs slaughtered at the Abattoir in Gozo.

German Fertilizers Scheme

Under the German Fertilizers Scheme 200 metric tons of compound fertilizer were shipped to Malta in August, 1969. The shipment, consisting of 4,000 bags, was sold to farmers at a subsidised price of 25% below market price. It was decided to use the proceeds as follows:

(a) £500 to cover expenses in connexion with seed-cleaning and seed-testing at the Government Farm;

(b) £500 for departmental library;

(c) £3,000 to purchase machinery and equipment for co-operative Societies;

(d) £1,400 to purchase machinery and equipment for Young Farmers' Association.

Indirect Financial Aid

Besides direct financial aid the department gives indirect financial assistance by way of services (spraying, steam-sterilization, supply of water, etc) below cost.

IV ADVICE, TECHNICAL ASSISTANCE AND SERVICES

During the year under review the Department continued to give advice and technical assistance to farmers and breeders through its various Sections.

Advice

The main method used to impart knowledge and guide farmers was the day to day visits by officers of the Extension Service Section to farmers. In this way, these officers gained the confidence of the farmers and their families.

The Extension Service supplemented these personal visits by giving lectures to young farmers' sons attending the full-time Horticulture and Agriculture course at the Agriculture School run by the Department, by holding farmers' meetings in various villages and at the Government Farm and by supporting the two Agricultural Clubs at Luqa and Mgarr.

A fortnightly publication "L-Agrikoltura" was issued by the Department and distributed free of charge, while a weekly half-hour programme was broadcast over the local relay system (Rediffusion). The Information Section answered hundreds of verbal and written questions on agriculture during the year.

Malta International Trade Fair

As usual the Department had a Stand at the Malta International Trade Fair held yearly in July. The Department tried to show the state of agriculture and fisheries in Malta and the various activities of the Department. Thousands of persons visited the Stand.

Farmers' Thanksgiving Day

A Farmers' Thanksgiving Day was held on November 15, 1970. A mass was celebrated by the Parish Priest of Mosta at the Mosta Oratory, followed by breakfast, film shows, demonstration of Agricultural machinery and lunch at the Civil Defence School. It was decided to hold a Farmers' Thanksgiving Day every year.

Laboratory Service

The Land and Water Use Section analysed 316 samples of soil, water and feedingstuffs. This service was freely given to all those who sought it.

1,076 post-mortem examinations (involving 501 owners) were carried out free of charge at the Veterinary Diagnostic Laboratory.

160 plant samples were dealt with at the Laboratory of the Plant Protection Section.

Water distribution

During 1970, about 2,400,000 gallons of water were distributed to farmers and part-time farmers by bowser while over 10 million gallons were distributed to farmers living in Lija, Attard, Balzan, Mriehel and Sta Veneral via a network of underground stone channels and pipes.

Those receiving channel water were charged 5d per 1,000 gallons in autumn and winter and 8d per 1,000 gallons in spring and summer. Those receiving water by bowser (1,300 gallons capacity) were charged 5/- per bowser if they were farmers and 10/- per bowser if they were part-time farmers.

Plant Protection

In 1970 officers of the Plant Protection Section and the F.A.O. Plant Pathologist carried out over 600 visits to growers in connexion with plant pests and diseases.

Spraying against pests and diseases was carried out, on payment, on 23,805 trees and over 630 tumoli of crop (tomatoes, onions, roses, vines etc) in Malta and 1,500 trees and shrubs and 30 tumoli of crops in Gozo.

Glasshouses

The officers of the Horticulture Section continued to tender advice to glasshouse growers by frequent visits to them and by handing to them leaflets in Maltese on the growing of tomatoes.

A half-day seminar was held on the 6th December, 1970 at the Government Farm to demonstrate new growing techniques and to exchange views and discuss problems with growers. The seminar was attended by over 100 growers.

Steam-sterilization of glass and polythene houses was carried out in 1970. Growers were charged 8/6 per hour.

Manure Permits

During 1970, the Department issued 582 permits to farmers to purchase 2,910 tons of manure from the Refuse Disposal Centre at 25/- per ton.

Fodder Permits

During 1970, permits were issued to licensed wholesalers, retailers, registered breeders, manufacturers of animal feedingstuffs and Co-operative Societies to purchase 71,500 qantars of pollard and 147,000 qantars of bran at subsidised prices.

Fisheries

In order that fishermen may have good quality fishing equipment at low prices the Department makes

purchases in bulk and sells the equipment to fishermen at subsidised prices.

Other Services

The following services were provided also by the various Sections of the Department:

Fumigation
Pruning/grafting of trees
Pruning/grafting of vines
Artificial Insemination
Stud Service
Free seeds

V EXPERIMENTS

EXTENSION SERVICE SECTION

1. Pentland Dell Seed Potatoes

The purpose of the trial was to ascertain the performance of Pentland Dell seed potatoes under varying conditions in the early districts of Malta.

The early districts of Malta (Zabbar, M'Scala, Hal Far, Gudia, St.Venera, Qrendi, Siggiewi, Mosta) and the Government Experimental Farms in Malta and Gozo made representative plots.

Selected farmers had different acreage of Pentland Dell seed sown. The total area sown with our seed was 20 tumoli.

The duration is normally 3½ months approximately, However, delays were recorded when sowing owing to a prolonged period of heavy rain. The sowing operation was delayed in some cases by three weeks. With regards to the harvest, the lifting of potatoes was just before full maturity in some cases to enable us capture the early market prices in London.

The technical officers in charge were Mr. J.P. Buttigieg, an Agricultural Officer in the Extension Service, and Dr. Link, a F.A.O. Marketing Expert.

The results were fairly moderate as regards quantity and excellent as regards quality. However, from our experience, it is not worthwhile to repeat the experiment or to consider further this variety, namely the Pentland Dell.

Pentland Dell is easily damaged by the winter winds and is rather delicate on the whole. As regards production it compares very unfavourably with Arran Banner - expected to yeild about 20% lower than Arran Banner and 30% to 40% lower than Alpha.

2. Capelli Wheat

The purpose of this trial was to introduce to local farmers seed of Capelli Durum Wheat. Durum wheat is a type of wheat preferred for use in the Macaroni Industry and the cultivation of this wheat locally would therefore, help to reduce the importation of all durum wheat for these Islands. Also by creating another crop for the farming community, the total production opportunity is increased and hence more money can flow into the farmer's pocket.

One hundred and thirty farmers tried out the crop and their farms were situated in Mgarr area, Rabat area, Mosta area, St. Paul's Bay area, Siggiewi area, Zebbug area, Hal Safi area, Zurrieq area, Mqabba area, Gudia area, B'Bugia area and M'Xlokk area.

The officers in charge were Mr. J. Obermaier, a German Fertilizers Expert and Mr. C. Micallef, an Agricultural Officer in the Extension Service. Mr. J. Obermaier's part in this experiment was to try out the effect of different types of fertilizers on the wheat crop and Mr. C. Micallef was in charge of the cultivation and harvesting of the crop.

The result of this experiment was very promising and all farmers who tried the wheat are very satisfied as they have seen better quality of grain and straw than in the local variety. Eventually the production of this Durum Capelli Wheat would increase to economic proportions.

3. Tic Bean

The object of this experiment was to introduce the Tic Bean crop to several farmers in order that this crop might be produced locally instead of being imported in large quantities from abroad. This crop is requested by local industries for the production of "Favetta".

The farmers in the Rabat and Siggiewi areas, where good fertility and cultivations help against bad weather conditions, have had good crops even though the crop was not watered during the dry season.

In these areas most of the crop was successful, except for a few fields which had been infested by the weed "Budebus" (Arobanche). Most of the crop in the South District was considered lost mainly because of lack of watering, bad fertility and lack of spraying against Aphids.

In most cases it was not possible to use the water bowser service to water the crop because of the inaccessibility of the fields. Many of these farmers also insisted on treating the Tic Bean crop as another dry land crop and considered that they cannot afford to lose too much time or money on cultivating and watering the Tic Bean crop.

This year's crop results should be noted for future reference. Only through good cultivation and conditions can this crop resist bad weather conditions prevailing during its growing season. It has been our object to advice as much as possible to the farmers concerned to carry out good and timely cultivations, adequate manuring and watering, and proper spraying programmes.

4. Onion Seed

The purpose of this trial was to establish which was the best variety of onion to grow on these Islands with the export view in mind.

The trial was carried out on several farms all over the Island, viz: Mgarr, Rabat, Dingli, Siggiewi, Gudia and Naxxar areas. The number of trials was a trial

per variety per farm. The varieties tried out were those of Sharon, Giza 6 and Early Grano. Where possible the local variety was also compared.

Seed of the mentioned varieties was distributed to a number of farmers and its sowing, germination, cultivation, transplantation and growth were followed.

The Early Grano variety was found to be most successful with the farmers who had grown it. It has been decided to carry out this experiment with the Early Grano variety on a much larger scale as soon as possible.

PLANT PROTECTION SECTION

1. Flies

Survey work on the "fly" problem in Malta continued in collaboration with the Department of Biology of the Royal University of Malta. In this connection, Mr. J. Grose of the Tropical Pesticides Research Unit, Porton Down, U.K., visited Malta in September in an advisory role. Tests on the effects of various insecticides on fly mortality were held in Malta and at Porton.

2. Gladiolus Rust (Uromyces transveralis)

Trials were carried out to compare nine different fungicides for their ability to control rust. Only one - Sabithane - showed any promise, and even this gave only partial control. Two new systemic fungicides, Benomyl and Oxycarboxin were applied both as corm dips and foliage sprays, but neither gave any marked control of rust.

3. Cucumbers

Two systemic fungicides, Benomyl and Dimethirimol gave very good control of powdery mildew (Sphaerotheca fulginea) of cucumbers. Further experiments are in progress to ascertain minimum dosage-rates for Benomyl.

4. Carnations

Small scale trials have been carried out to test the activity of Benomyl in controlling Fusarium wilt in this crop. Promising control was obtained using ½lb. of the commercial product in 100 galls. of water, applied as a soil-drench at approximately 1½ gallons per square yard: one repeat application was made 14 days later. More work is required before a recommendation can be made.

5. Chrysanthemums

Three crops are being produced each year on an "All the year-round" basis; observations are being made to establish the range of pests and diseases attacking

this crop, with a view to formulating a spray programme. Pests encountered so far are aphids, red spider mite, leaf miner and cut worms; whilst the only disease problem so far recorded as botrytis (grey mould).

6. Gerberas

A new crop is being established: growth is very slow and the plants appear very susceptible to botrytis, though with appropriate spray treatments with Captan, and early removal of infected leaves, plant-losses have been kept very low indeed.

7. Roses

Numerous fungicides were tested for their ability to control powdery mildew on glasshouse roses (Sphaerotheca pannosa), but satisfactory control was not obtained. There was an indication that roses grown in a large house with high eaves suffered less than those grown in a smaller, lower-eaved house. Another problem on glasshouse roses is red-spider mite. The particular strain on roses at the Government farm seems to be resistant to many of the standard pesticides. One rose variety (Yellow Garnett) was virtually defoliated by spider mite.

Both powdery mildew and red spider mite lessened in intensity under the influence of high summer temperatures.

8. Soil Sterilization

Trials have been carried out with a 'surface' method of steam sterilization using steel "coffins" on the soil surface, the virtue of the method being that it could be carried out during the day with minimal labour requirements. Temperature recordings were taken at various depths with a recording thermometer, and the characteristics of soil-cooling after treatment were observed. The method was found to be adequate only on fairly porous soils of low moisture-content.

9. Cutworms

A short programme of work was carried out to identify the species of cutworms attacking a range of glasshouse crops.

10. Biological control

Experiments were initiated to investigate the possibility of controlling red spider mites on roses with a predator - Phytoseiulius Spp.

LAND AND WATER USE SECTION

1. Hydroponics

The Hydroponics Experiment was continued during 1970. Once again the yield obtained compared favourably with normal glasshouse production. Nutrient analyses

carried out during the year indicated the desirability of increasing the phosphate content of the solution. When more phosphate was added small but significant response was obtained in about a week's time.

2. Seaweed

During the year plans were laid out to continue studying the utilization of local seaweed (alka) in agriculture. Small scale trials were carried out using seaweed as a mulching material for afforestation. The first results were very promising and there were indications that such application of seaweeds inhibited weed growth.

3. Oxalis as animal fodder

Chemical analyses of oxalis was carried out to determine its value as animal fodder. The analytical result was as follows: Oil 5%, Fibre 16.9%, Crude Protein 22%.

It would appear that oxalis is a rich source of crude protein and worthy of further detailed investigations.

4. Sub-Soil irrigation

Small scale laboratory trials were conducted to study water movement in Maltese soils as a prelude to full scale sub-soil irrigation experiments as seen in Germany. These small scale laboratory trials showed that water filtration in Maltese soils is relatively fast and therefore such soils are quite capable of being utilized for sub-soil irrigation.

5. Fertilizers

Early in 1970 sieved refuse compost was applied to Acacias in the Mizieb area. The newly planted saplings received 1.5 kgs (2 rotoli) each as a mulching material on the top soil. Due to this cover, less weeds developed and soil moisture was slightly higher than in untreated saplings.

In the Armier Afforestation site the same quantity of sieved refuse compost was placed into the planting holes of Acacias and Tamarix before the saplings were planted. The treated plants in general show a more vigorous growth. It seems that mixing the compost with the soil in the planting hole before planting the sapling is more beneficial and should be practised on a larger scale.

A trial of Marrows under plastic tunnels and in the open air at the Government Experimental Farm was treated with sieved refuse compost at a rate of 2.5 kgs. per m^2.

Due to the organic matter added, the soil had an improved physical structure and no crusts built up after irrigation.

Trials with onions (Gialla Rocco) were carried out during 1970 at the Government Experimental Farm. The crops received either compound fertilizers or sieved refuse compost or compound fertilizers plus compost.

The results were as follows:

I.	Compound Fertilizers(500 kgs/ha.)	357	quintals/Ha.
II.	Refuse Compost (65 tons/Ha.)	340	" "
III.	I + II	360	" "

The national average yield of onions amounts to approximately 210 quintals per hectare. The application of the said amount of fertilizers together with refuse compost increased yield compared to the mentioned above national average by 70%.

Early in 1970, preliminary recommendations on the use of compound fertilizers were published as follows:

1) Autumn and Spring potatoes:
   1.5 bags/tomna of 12/12/17/2
   irrigated: 2 bags/tomna

2) Wheat and barley:
   1 bag/tomna of 15/15/15

3) Onions:
   1 bag/tomna of 12/12/17/2
   or 15/15/15

4) Dry land tomatoes:
   1 bag/tomna of 12/12/17/2

Compound fertilizers have to be applied before ploughing the land in order to mix this fertilizer thoroughly with the soil down to root level.

6. Forage

Variety trials with Sorghum and sudan grass hybrids for forage production were also conducted during 1970. As in the previous year, these crops were studied in view of the possibility of using treated sewage affluent in agriculture. The results indicated that bulk forage production for green fresh consumption or hay is feasible with these crops compared to sulla production costs. Chemical analyses were as follows:

Sorghum and Sudan Grass Hybrids for Forage:

Moisture	Oil	Fibre	Crude Protein
69.7 %	0.61 %	16.6 %	6.5 %

HORTICULTURE SECTION

1. Propagation trials of Tomatoes & Cucumbers

For the 1968/69 season sowings were made in a mixture of 50/50 ratio peat and sterilised soil. To this was added ½oz. Superphosphate per box of mixture.

For pricking out 3" pressed cardboard pots and 4¼" black whalehide pots were used. The seedlings in the black whalehide pots were more vigorous while the ones in the pressed cupboards showed nitrogen deficiency.

The 1969/70 sowings were made in a similar peat mixture but the Superphosphate was increased to ½ oz. per box and to this was added ½ oz. potassium nitrate per box. This resulted in better germination and growth of the young seedlings was more uniform. For the Potting Compost 1 oz. J.I Base and ½ oz. Fritted trace elements were incorporated in each box of mixture by volume. A higher proportion of peat (2:1) in the pricking off compost gave better results and it is thought that the extra expense is worth-while since that state of the plants at this young stage will determine the type of crop that is to be expected during the whole season.

2. Cucumber Trials

(a) A varietal and disease control trial on cucumbers was carried out between 15th September 1969 and 16th March, 1970. The seedlings were planted out on the 7th October, 1969. The two varieties used were 'Princess' and Green Spot'. 30 plants of Princess yielded 648 cucumbers which weighed 350 Rt. 19 ozs.thus averaging 21 cucumbers per plant and a yield of 11 Rt. 19ozs. per plant. 32 plants of Greenspot yielded 795 cucumbers weighing 388 Rt. 6 ozs. thus averaging 25 cucumbers per plant and a weight of 12 Rt. 4 ozs. per plant. Therefore Greenspot gave higher yields but the margin was not significant.

(b) On the strength of these results a second trial was carried out using only Greenspot. Only 32 seedlings were planted in the same glasshouse at double the spacing of the previous trial. The trial stretched from 21st February, 1970 to the 13th July, 1970. The number of cucumbers picked was 964 which weighed 655 Rt. 24 ozs. an average yield of 30 cucumbers per plant and an average weight of 20 Rt. 15 ozs. per plant.

(c) The third trial started on the 10th October, 1970 and will be dealt with in next year's report.

3. Modified Trough Culture

Two-inch and four-inch raised beds held in place by a timber frame were constructed over polythene sheets three feet wide. Nine inch whalehide pots were placed on this substrate. The beds used measured 3ft. by 40 ft. The nine-inch pots were filled with a compost of a 50/50 mixture of peat and sterilised soil. The mixture contained 1 lb. J.I base per barrowload. The substrate consisted of 50/50 peat and soil in two beds of 2 inches and 4 inches high and only peat in the other two beds of 2 inches and 4 inches each.

The plants grew well initially but later became hard and thin but it appeared that the beds with a substrate

of peat and soil, and that the 4 inch troughs were better than the 2 inch ones. Picking started on the 26th November, 1969 and continued until the 19th June, 1970. Yields were as follows:

Grade	B	C	D	E	F	TOTAL
	Rt. oz	Rt. oz	Rt. oz	Rt. oz	Rt. oz	Rt. oz
Bed A Peat 4" subst.	4	9 5	71 7	79 20	34 26	195 2
Bed B Peat 2" subst.	-	2 13	56 4	73 13	40 7	172 7
Bed C Peat/Soil 4"	-	6 18	62 23	76 17	46 0	191 28
Bed D Peat 2"	-	3 11	57 28	73 16	41 15	176 10

To this should be added the fruits from the control plants along the fronts plus the rejected fruits. This brings the total yield for the house to 998 Rt. 11ozs. Average yield per plant was 7 lbs.

This system of modified trough culture is intended to provide a means of growing a crop to the grower who:

(a) cannot steam because of lack of access,

(b) has no suitable soil at the glasshouse site,

(c) even after steaming had soil-borne disease problems.

4. Straw culture

The object of this trial was to see if tomatoes could be grown successfully on straw culture and Levington compost. There were four polythene troughs filled with a compost of 50/50 peat and soil, two of which were made of black while the other two of white polythene. Polythene pillows or bags were filled with Levington compost. In each of 24 bags 4 plants were planted and in the other 48 bags two plants were planted in each. In each of the polythene troughs there were 44 plants while along the fronts there were 49 on each side. The variety used was Fountain Cross.

(i) The plots where there were 4 plants in each polythene bag filled with Levington compost produced 207 Rt. 29 ozs. total yield.

(ii) The plots where there were 2 plants in each polythene bag filled with Levington compost produced 286 Rt. 5 ozs.

(iii) The number of plants in (i) and (ii) was 48 in each.

(iv) The two polythene troughs produced 312 Rt. 7oz.

(v) The two black polythene troughs produced 259 Rt. 7 ozs.

(vi) The number of plants in (iv) and (v) was 44 in each.

The total yield of this glasshouse including the spare plants and the plants along the fronts plus the rejected fruits was 1506 Rt. 2loz.

The compost in the polythene troughs was a mixture of peat and straw 50/50. This was given a base fertilizer treatment per bed of:

4 lbs. Superphosphate

2½ lbs. Potassium Nitrate

½ lb. Magnesium Sulphate

Two of the troughs were also given 2 lbs Sulphate of ammonia with this mixture while the other 2 were given 2 lbs Sulphate of Ammonia on November 18, 1969.

The results showed conclusively that tomatoes did not need a very deep layer of growing medium in order to grow well. Also, increasing the number of plants per unit area, such as in the bags which had 4 plants each, could be detrimental to the plants themselves and result in a yield even lower to that where only two plants per bag were used.

Furthermore the cheap and easy to construct troughs showed promise and further experiments along this line are envisaged.

5. Traditional Growing (Guernsey Bank)

In this half of glasshouse No.5 tomato plants were grown using the Guernsey Bank System. This was coupled with training experiment which was a continuation of the previous season trials with the "layering" method. In this system the plants are trained up, strings are fastened to the wires as in the arching system, then the string is unfastened, lengthened and retied further along the wire so that the plants' stems run horizontally for a while and are then trained up the string again as before. This operation is repeated each time the growing tip of the plant reaches the wire. This system has some advantages, e.g., the growing point is always in full light and the fruit is not subject to overheating late in the season. But it also has some disadvantages - the fruit is always near the ground with the result that it could be dirtied or knocked about. Also the picker has to bend all the time thus slowing down the work. Picking started on the 26th November and finished on the 26th June, 1970. The total picking from this house including the fruits of the spare plants and the rejected fruits was 1,671 Rt. 29 ozs. Average yield was 8 lbs. per plant.

6. Variety Trial

The varieties used in this glasshouse were the ones that had previously showed most promise under local conditions. There were 7 hybrid varieties and one non-hybrid:

Fountain Cross (non-hybrid)
Kingley
Selsey
GCR 88
Amberley
GCR 93
Minerva
Bingerella

Fountain Cross was grown from seeds saved at the Farm and was used as a control while the others were brought from the Glasshouse Crops Research Institute, England. Picking started on 26th November, 1969 and ended on 25th June, 1970.

The picking from these varieties was as follows:

	Grade	B		C		D		E		F		Rejects		Total	
		Rt.	oz.	Rt.	oz	Rt.	oz	Rt.	oz	Rt.	oz	Rt.	oz	Rt.	oz
Fountain Cross	1	1	5	7	1	12	17	10	5	5	0	5	13	41	11
	2	2	7	8	4	17	1	12	15	4	27	5	4	49	18
Eurocross BB	A[1]	[illegible]	26	[illegible]5	25	48	12	57	14	14	23	9	5	136	5
	A[2]		10	7	5	60	5	45	11	8	28	7	26	129	25
Selsey	B[1]		10	2	22	31	20	66	23	27	26	11	19	129	19
	B[2]		6	4	1	40	24	57	3	21	3	7	18	131	12
Kingley	C[1]			2	2	30	28	61	0	25	1	10	19	129	20
	C[2]		15	6	15	38	5	55	8	19	11	6	22	125	16
Amberley	D[1]		9	2	4	34	7	58	18	23	17	11	2	129	27
	D[2]		10	4	24	40	18	59	10	21	9	5	4	133	15
GCR 93					19	8	14	14	4	7	8	4	-	34	25
GCR 88			13	2	2	11	4	11	12	5	14	3	3	33	18
Minerva			5	1	7	9	23	22	25	13	9	4	25	52	4
Bingerella			22	2	8	15	0	23	0	10	3	8	11	59	9
Spares			15	[illegible]0	0	27	22	17	9	5	16	4	7	65	9

As it is, one can only compare the beds with Eurocross BB, Selsey, Kingley and Amberley as only these had an equal number of plants but there was little difference in the yields anyway. The total yield from this glasshouse was 1,384 Rt. 5 ozs.

7. Glasshouse Flower Crops

In all five different cut-flower crops, namely, roses, carnations, gerberas, chrysanthemums and strelitzias were grown as follows:

(a) Roses

The rose house (formerly the Cambridge) was planted with the following varieties of Roses:

Hybrid T's	Floribundas
Baccara Red	Garnet (Red)
Superstar (Bright deep pink)	Golden Garnet (Yellow)
Golden waves (yellow)	Carol (Pink)
	Zorina (Bright deep pink)

Early in 1970 budding and transplanting of roses was continued and the results, as before, were not very satisfactory. All the Baccara in Houses Nos. 6 and 10 were pruned and transplanted to the Cambridge (house No.1). This resulted in a 90% take which was to be expected since the condition of the plants was poor.

During 1970 control of Mildew and Red spider on roses proved extremely difficult. Several types of sprays and sulphur lamps were used. Overhead spraying helped to some extent and it is hoped that overhead spraylines will be installed in the near future. No special feeding programme was carried out but semi-automatic trickle irrigation was installed. Iron chelate was used to check chlorosis in the plants.

(b) Carnations

For the 1969/70 season a cultural and varietal trial replaced the "two-year" cropping trial of the two previous seasons. The 3,000 rooted cuttings were bought from a local firm and the varieties were Scania, White Sim, Crowley and Arthur Sim.

The eight beds (27'2" x 3'10" each) were steamed and flooded. No base fertilisers were used. Planting started on the 23rd July, 1969. 371 plants per bed at 6" x 6" spacing were used.

Until they were established the seedlings were hand watered, then trickle irrigation was used throughout.

Records of Carnations
Plants with one Stop

Variety	White Sim	Scania	Arthur Sim	Crowley
Date of planting	23.6.69	24.6.69	24.6.69	23.6.69
No of Plants	371	371	371	371
Start of Picking	22.11.69	25.11.69	15.11.69	19.11.69
End of Picking	28.5.70	28.5.70	28.5.70	28.5.70
Total Yield	1257	1284	1396	1686
Approx. Yield per plant	3.4	3.5	3.8	4.5

Records of Carnations
Plants with one and half Stop

Variety	White Sim	Scania	Arthur Sim	Crowley
Date of planting	24.6.69	23.6.69	23.6.69	24.6.69
No of Plants	371*	371	371	371
Start of Picking	15.11.69	14.11.69	14.11.69	15.11.69
End of Picking	28.5.70	28.5.70	28.5.70	28.5.70
Total Yield	1032	1469	1615	1531
Approx. Yield Per plant	2.8	4.0	4.4	4.3

* 60 plants died after 10 weeks

Records of Carnations
Pickings for Season '69/70

	Bed Numbers								
Variety	1	2	3	4	5	6	7	8	Total
White Sim	1257					1032*			2289
Scania		1469			1284				2753
Arthur Sim			1615					1396	3011
Crowley				1686			1531		3217
									11270

Note: Taking into consideration that 60 plants had died the average yield per plant was 4 Blooms.

* 60 plants died after 10 weeks

A standard feed was used made up of 14 ozs. Ammonium Nitrate and 11 ozs. Potassium Nitrate plus 3 ozs.

Iron chelate dissolved in 80 gallons of water. On alternate applications clear water was given to the plants in order to avoid a salinity build-up in the compost. About 60 plants died from disease which was presumably brought in with the cuttings.

Five weeks after planting the plants were stopped to encourage new shoots. After yet another five weeks the plants in four of the beds were stopped again. The reason for this was firstly to compare between the 'one stop' and the 'one stop and half' methods and also to stagger the cropping over the whole season. The plants with 1½ stop yielded only 0.6 blooms per plant higher than those with one stop, but 60 of them had died.

The plants were sprayed weekly with a combination of Kaptan and Zineb.

For the 1970/71 season rooted cuttings were imported from Holland. The cuttings arrived in an appalling state. 20 ozs. of Superphosphate per bed was applied as a base dressing before planting. Planting started on 29th July, 1970 and the first blooms were out on 27th November. The overall result of this trial will be given in next year's report.

(c) Chrysanthemums

The production and experiments on All the Year Round (A.Y.R.) chrysanthemums at the Government Farm was undertaken for the first time in 1970. From results achieved by private expatriate enterprises it was seen that this cut flower could very well become a prominent crop even with local growers. For this reason trials of production and marketing were started.

(i) Trial No. 1 Feb/May 1970 -

One of the glasshouses at the upper end of the farm was converted to semipermanent troughs so as to give better control on the growing medium and on drainage. The compost in the troughs was steam-sterilised and then thoroughly leached. Before planting a base application of 2 oz. per sq. yard of Superphosphate was applied.

Planting was done during the last week of February using the following varieties:

Standard Varieties	Spray Varieties
Fred Shoe Smith	White Hurricane
Yellow Nob Hill	Yellow Hurricane
Gold Nob Hill	

The cuttings were purchased from a local firm. Regular waterings and feedings with a standard solution of Ammonium Nitrate, Potassium Nitrate and Iron chelate were effected. Spraying against aphids, red spider and botrytis was also done regularly.

Light and dark polythene shading were installed. At first the lights were left on for a few hours a day until the required length of stem was achieved, then shading was used to shorten the light-day and initiate bud formation. The shading was not used after the buds began to show colour. Disbudding was carried out throughout the trial period. The results were excellent and trial export to London and Rome were made with encouraging results. When flowering was over the plants were cut back to about 4", lifted and planted out in the open. This gave a splendid crop during November and the flowers sold very well on the local market because of the heavy demand for this type of flower during this period.

(ii) Trial No.2 August/November, 1970 -

After lifting the first crop the beds were steam-sterilised and made ready for another planting. The trial was conducted on the same lines as the previous one. The varieties used were the following:

Standards	Sprays
Fred Shoesmith	White Hurricane
Pink Champagne	Yellow Polaris
Rivalry	Yellow Bonnie Jean
	Bonnie Jean
	Tuneful

This time another glasshouse was also converted to trough culture and both were planted with chrysanthemums on 21st August, 1970. They flowered successfully in November, 1970 and 120 dozen blooms were exported to London markets.

More trials will be carried out along the same lines. The purpose being to gather more information on the culture, light and shade response and potentiality for exports of this crop.

FISHERIES DIVISION

Due to the dumping of brine inside the inner part of the Grand Harbour from the electricity power station distillation plants, an increase in salinity and heating of environmental waters is expected, particularly when all the distillers are put in operation. Salinity/Temperature measurements of a trnnsverse from the breakwater to the inner creek next to the power station were continued to assess any unnatural fluctuations which might alter ecological balances and affect the present distribution of flora and fauna.

Initiatory work was started in collaboration with the Royal University of Malta for studies connected with the migration of dolphin-fish (Coryphaena hippurus) by the acquisition of water and plancton samples in the vicinity of fishing floats.

Further comparative fishing trials were made in 1970 on the site of the artificial reef created by the dumping of old cars in 1969 and it is hoped that a report would be submitted in 1971.

VI LAND, SOIL AND WATER

Land Registration

The number of land transfers was 650. The transfers of land were the results of various factors such as death, abondonment of land for more remunerative work, infirmity, and erection of houses and factories, and construction of roads on agricultural land.

Assessments of Compensation

The demand for assessments of compensation paid to farmers for agricultural land taken up by Government for industrial and other public purposes continued to increase.

The number of assessments carried during the last three years was as follows:

Department	1968	1969	1970
Public Works	98	130	155
Malta Electricity Board	106	144	154
Lands	43	78	54
Agriculture	12	2	9
Education	4	-	-
Water Works	-	10	8
Totals	263	364	380

Soil Preservation

Soil preservation in these islands is regulated by the Fertile Soil (Preservation) Ordinance of 1935.

In January, 1970, the Preservation of Fertile Soil Regulations were issued. They covered (a) the notice to be goven under Section 5 of the Ordinance (b) deposit of soil on land already covered with soil (c) deposit of material on site, and (d) charge for removal of soil.

During the year under review, 576 building notices were received, and 31,637 cubic yards of fertile soil were removed to new sites. The corresponding figures for 1969 were 719, and 185,298.

265 sites were inspected in 1970 as against 324 in 1969.

Water

No new water supply points were completed during the year(although detailed plans had been made

to establish such points at Siggiewi, Naxxar, Lija, Cospicua and Dawwara - Gozo) as the call for tenders for water pumps proved fruitless.

Modifications were made to the Kirkop Quarry and Government Farm points to provide better service to farmers. The Lija reservoir was cleaned and repaired and inlet culverts laid out.

Water from Chadwick Lakes and a borehole in Balzan continued to be delivered via a network of underground stone channels and Wignacourt Aqueduct to various farmers in Lija, Attard, Balzan, Mriehel and Sta Venera.

2,400,000 gallons of water were distributed to farmers and part-time farmers by bowser.

VII MARKETING

Marketing Centres

Agricultural produce is put on the market mainly through Pitkals (middlemen) and through the Co-operative Societies.

The number of Pitkals was 35 in 1970, distributed as follows:

B'Kara	-	7
Marsa	-	5
Mosta	-	2
Rabat	-	5
Zebbug	-	3
Valletta	-	10
Gozo	-	3

All sales through pitkals were made under the supervision of officials of the Department, with the exception of those made through the Valletta and Gozo Pitkals.

Sales through Pitkals (under the supervision of the Department) amounted to £1,066,903 as against £877,656 in 1969.

There were, in 1970, six Marketing Co-operative Societies, one in each of the following towns and villages: B'Kara, Marsa, Rabat, Siggiewi, Zebbug and Valletta.

Sales through the Co-operative Societies amounted to about £250,000 in 1970.

The number of Pitkals licensed to sell fish at the Wholesale Fishmarket was 14, whereof 2 foreign. 1,215,125 rotoli of fish were sold at the wholesale Fishmarket in 1970.

Licences

All applications to the Director of Trade for the export and import of land produce and livestock pass through the Department.

Exports

During the year under review the value of agricultural products exported amounted to £1,233,000 as against £2,304,000 in 1969.

The Chief items exported were:

Ware potatoes and onions	-	£629,369
Animal and Vegetable oils	-	£227,000
Flowers, plant cuttings, seeds and bulbs	-	£123,000
Meat and meat preparations	-	£ 75,000

Imports

In 1970 the value of agricultural products imported amounted to £13,304,000 as against £12,586,000 in 1969.

The chief items imported were:

Cereals and cereals preparations	- £3,765,000
Meat and meat preparations	- £2,394,000
Fruits and Vegetables	- £2,280,000
Dairy products, eggs and honey	- £1,759,000
Feeding-stuff for animals	- £1,048,000

Inspections

Agricultural Inspectors made regular inspections on retailers of fresh fruit, vegetables and meat to check prices and on Pitkals to check that no sales were made outside the prescribed hours.

During the year under review 4 butchers, 6 greengrocers, 3 hawkers and 41 Pitkali were reported to the Commissioner of Police for having contravened the Agricultural Produce (Marketing) Regulations, 1952.

VIII PUBLIC GARDENS, NURSERIES AND AFFORESTATION

During the year under review, 16,000 trees and shrubs were planted in public gardens, playing fields, traffic islands and along roads in Malta.

The Department had to look after the following planted areas (besides afforested areas) in 1970:

	Malta	Gozo
Public Gardens	25	1
Traffic islands	24	14
Strips and open spaces	17	35
Groves	4	3
Playing fields	19	5
Roads	6	5

The afforestation drive was continued and the following trees were planted in Malta in 1970:

Ballut Mgarr	8,451
Bidnija	309
Armier	9,775
Chadwick Lakes	3,450
Buskett	2,200
Mizieb	18,400
Ghajn Tuffieha	10,823
Xemxija	1,705
Ghadira	800
Lascaris Ditch, Valletta	315
Other places	6,272
	62,500

The following trees and shrubs have been planted since 1964:

Year	Malta	Gozo	Total
1964	6,841	2,478	9,319
1965	5,006	4,362	9,368
1966	4,060	3,303	7,363
1967	12,209	4,270	16,479
1968	37,237	6,137	43,374
1969	71,978	6,879	78,857
1970	78,500	7,000	85,500
	215,831	34,429	250,260

The Department has the following nurseries: Europa(Wied Incita), Tal-Kmand(Lija), St. Paul's (Rabat), Sa Maison, Notre Dame (Floriana) and Buskett in Malta, and Tad-Dawwara(Victoria), Kercem and Government Farm in Gozo.

By decision of the Council of Europe, 1970 was European Conservation year. The local committee for European conservation year, 1970, was set up in

April, 1968, under the chairmanship of the Director of Agriculture and Fisheries. To mark European conservation year 1970 Wied Incita Nursery was named "Europa Nursery".

Malta commemorated the 25th anniversary of the United Nations by a tree-planting ceremony at Buskett. Trees were planted by Dr. K. Rao, Miss. E. Zimmerman and Mr. T. V. Sciffin of the United Nations Office in Malta and by H.E. the Governor General, the Acting Prime Minister (Dr. G. Felice), the Minister of Trade, Industry and Agriculture (Dr. J. Spiteri), the Director of Agriculture and Fisheries (Mr. A.S. Farrugia) and by the Senior Administrative Officer of the Department (Mr. O. Vella).

The Minister of Trade, Industry and Agriculture (Dr. J. Spiteri) who was also Chairman of the Plant a Tree in Malta Committee, presented, in October, 1970, cups and certificates to fourteen workers of the Department in appreciation of their efforts towards afforestation in Malta.

The Italian Government very kindly donated 17,000 saplings to the Malta Government in November, 1970. These consisted of eucalyptus, acacia, pine and cypress and were brought over by the corvette "Po" of the Italian navy.

Many private organizations and individuals gave help to the Department in its afforestation drive.

IX GOVERNMENT EXPERIMENTAL FARM

Introduction

During 1970 the Government Experimental Farm pursued its role of:

1) Demonstrating to farmers modern techniques and equipment.
2) Producing and providing farmers with seed of improved crop varieties.
3) Breeding and providing livestock keepers and farmers with selected animals.
4) Carrying out, in conjunction with other sections of the Department, research and experimentation in animal and crop husbandry.

The Farm is kept open to the public and all visitors are welcome during normal Government office hours. The Farm was visited by a large number of farmers during the year.

Livestock

Dairy: The herd on the Government Farm consisted of 4 bulls, 15 cows and 16 young ones, all Friesians. In addition one heifer, and one cow and her young bull calf of the local breed of cattle were kept as an example of the old multipurpose animal used to pull the plough and as a draft animal.

The cows were mated by artificial insemination. The 4 stud bulls were not utilized for natural service but were used for the A.I. service provided by the Department to cow keepers.

Sales during the year consisted of 12,610 gallons of milk delivered to M.M.U., 1bull and 4 cows.

Beef: The beef unit was inaugurated in 1970 on an experimental basis to demonstrate to farmers the most suitable method of fattening for beef the surplus calves from the dairy herd.

Sheep and Goats: The sheep unit is made up of two separate breeds, the Suffolk and the Local Improved.

The Suffolk sheep were imported in 1969 to be bred locally and used to improve the carcase quality of the local sheep which are good milkers but have a poor carcase for fat lamb production.

The Local Improved sheep were brought over in 1970 from our Farm in Gozo where the local breed was improved for milk production by crossing with the East Friesian breed. A trial for the crossing of Suffolk with Local Improved sheep was started in July and in December three local sheep gave birth to 3 male and 3 female cross bred lambs.

The goats section consisted of 15 goats, 2 billies and 10 kids of the Maltese breed and 22 goats, 3 billies and 9 kids of the saanen breed. The Maltese breed was kept to maintain a nucleus of selected pure bred local goats. Selection is being used to produce two distinct strains - a black and brown strain. The saanen were kept to provide herdsmen with billies to be crossed with the local breed for improving their milking qualities.

A public Saanen stud centre is kept at the Farm.

Sales during the year consisted of 3,060 gallons of milk delivered to M.M.U., 1 Maltese and 4 saanen billy goats, 1 Maltese and 6 saanen goats, 2 Maltese and 5 female saanen kids, 6 Maltese and 10 saanen male kids, 1 suffolk ewe and 1 Maltese ram.

Swine: The farm herd consisted of two distinct breeds, comprising 188 large white and 166 landrace pigs on 31st December, 1970; the aim being to breed and provide farmers with selected gilts and young boars of both breeds so that they may improve the quality of their herds.

Surplus stock was sold for fattening purposes.

Sales during the year consisted of:

58 landrace and 52 large white sows;
31 landrace and 9 large white boars;
77 landrace and 127 large white piglets.

Poultry - Rabbits The Stock of poultry and rabbits at the Farm on 31st December, 1970, was:

	Male	female	young stock	total
B.B.W. Turkeys	14	250	74	338
Am. Bronze	14	46	11	71
Ayls. ducks	19	84	-	103
Pekin ducks	12	42	-	54
Wild Ducks-mullards	14	60	-	74
Wild Ducks-ornamental	7	6	-	13
Chinese pheasants	14	34	-	48
Golden pheasants	5	8	-	13
Silver pheasants	1	1	-	2
Lady Amberst pheasants	1	2	-	3
Guinea fowls	57	43	-	100
Geese	5	14	-	19
Partridges	5	7	-	12
Pea fowls	3	2	3	8
Flemish Giant rabbits	8	15	11	34
N.Z.W. rabbits	31	55	56	142
Calif. rabbits	7	9	10	26
Volvo rabbits	2	6	5	13

Sales from the Poultry and Rabbit Section during 1970 were:

	Hatching eggs	Young stock	Adult Stock
Turkeys	2364	168	105
Ducks	855	1411	263
Wild ducks (mullards)	175	6	144
Pheasants	368	-	54
Guinea fowls	261	-	77
Geese	51	-	-
Partridges	-	-	11
Rabbits	-	-	153

A stud rabbit service was maintained on the Government Farm and subsidiary stud centres were kept at Rabat and Msida.

Field Crops Section

The field crops section utilised 112 tumoli of land, 76 tumoli of which can be irrigated from two deep wells which are available on the Farm.

The following produce was sold in 1970:

	Exported	Pitkali
Potatoes	3,968	8,640 rotoli
Tomatoes		2,300 rotoli
Onions		725 rotoli
Garlic		227 bundles
Kohlrabi		41 bundles
Cauliflower		121 bags
Lettuce		67 bundles
Pumpkins		14 in No.
Mint		9 bundles
Eggplants		105 rotoli
Green pepper		146 rotoli
Celery		134 bundles
Parsley		53 bundles

During the year two new items of modern equipment, donated by the Government of the Federal Republic of Germany, were put into use. These were a cereal cleaning machine, and a self-propelled seed drill.

The following trials were carried out during the year:

Variety trial with white fleshed potatoes.
Variety trial with yellow fleshed potatoes.
Export trial with Pentland Dell potatoes.
Variety trial with export type onions.
Variety trial with canning type tomatoes.
Weed control trial on bean in conjunction with Prof. Edwards. of the Royal University of Malta.

Farm Garage

All transport vehicles, equipment and machinery of the Department are repaired and maintained at the Garage.

The garage did sterling work during 1970.

X VITICULTURE AND ENOLOGY

VITICULTURE

Table Grapes

Three new varieties were kindly donated to the Department by the Indian Ministry of Agriculture. These are (a) Hur (b) Bharat Early and (c) Black Muscat. On receipt they were planted at the Buskett Grape and Wine Station.

The following varieties of table grapes are available for propagation purposes at the Grape and Wine Station:

Panse Precoce, Regina dei Vigneti, Beauty Seedless, Cardinal, Alphonse Lavallee (Ribier), Prune de Cazoul, Perlette, Loose Perlette, Sultanina, Italia, Alba Magna, Regina, Zibibbo, Marengo, Black Rose, Emperor, Ohanez, Calmeria, Gold, Thompson Seedless, Sultana, Dattier, Kishmishi, Exotic, Tokay, Red Malaga, Moscato Fiamma, Moscato Regina, Early Muscat, Muscat Mikveh, Nitter, Noir Mikveh.

Wine Grapes

The following varieties of wine grapes are available at the Grape and Wine Station for propagation purposes:

Chenin Blanc, French Colombard, Petit Sirah, Malvasio Bianca, Black Malvoise, Merlot, St. Emillion (Trebbiano), Ruby Cabernet, Rubired, Muscat Hamburg, Emerald Riesling, Tinta Madeira, Tokay, Gold.

Vine Rootlings

Since 1964, 345,700 vine rootlings were imported from Sicily while 93,000 were produced by the Department in Malta and Gozo. Out of this total 249,500 were sold to the public in Malta and 150,000 to the public in Gozo. The remaining rootlings were planted in the vineyards of the Department in Malta and Gozo.

Sub-stations

In Malta there were ten viticulture sub-stations while in Gozo there were nine. The ten sub-stations in Malta were established as follows: 2 in 1965, 3 in 1966, 3 in 1967 and 2 in 1968.

Owners of the sub-stations are given a subsidy of £4 per tumolo per annum for the first three years.

Cordon System

The Department is advocating to grape growers the adoption of the Cordon System. During the year three plots were planned and planted, according to the

specifications of the Department, at Bidnija, Burmarrad and Bahar-ic-Caghaq. The advantages of this system were appreciated by all concerned. Grafting, training, pruning, spraying and cultivation operations are greatly facilitated. Moreover, midway through the growing season there is no need to lift the fruit off the ground by time-consuming and back-breaking operations.

ENOLOGY

Legislation

During the year the Wine Regulations 1970 (L.N. 93 of 1970) were issued.

Licences to Vintners

During the year 54 commercial licences and 83 private licences were issued in Malta and 52 commercial licences and 107 private licences in Gozo.

Harvesting

The commencing dates of harvesting of the grape crop for the production of wine during the vintage seasons 1965 - 1970 were as follows:

1965 - 27th August.
1966 - 1st September.
1967 - 1st September.
1968 - 2nd September.
1969 - 2nd September.
1970 - 4th September.

Prices

The minimum prices (per qantar weight) fixed by the department during the last six years for grapes sold by farmers to vintners were as follows:

	White	Black
1965	£2. 5. 0.	£2. 5. 0.
1966	2. 5. 0.	2. 5. 0.
1967	2. 5. 0.	2.15. 0.
1968	2. 7. 6.	3. 0. 0.
1969	3. 0. 0.	4. 0. 0.
1970	3. 0. 0.	4. 5. 0.

XI VETERINARY SERVICES

ABATTOIRS

All animals, must by law, be slaughtered in a Government Abattoir by Government butchers and inspected by Government Veterinary Surgeons assisted by a qualified Meat Inspector. Pigs slaughtered by the Malta Bacon Factory are, however, an exception to this rule, in so far as they are allowed to be slaughtered at the Bacon Factory, although they are also subjected to inspected by Government Veterinary Surgeons and graded by a Government Officer. By these arrangements the health of the population is safeguarded.

The following animals were slaughtered in Malta and Gozo Abattoirs during 1970:

	Malta		Gozo	
	Number	Rotoli	Number	Rotoli
Cattle	8,363	2,655,247	654	231,819
Equines	850	170,291	5	1,194
Pigs	55,703	4,889,379	3,732	334,529
Sheep	3,667	140,441	86	2,498
Lambs	4,394	41,236	542	4,418
Goats	3,624	87,476	45	990
Kids	1,071	5,358	65	344
Total	77,672	7,989,428	5,129	575,792

8,244 pigs were slaughtered at the Malta Bacon Factory. The total number of pigs slaughtered (67,679) exceeded the figure for 1969 by 11,976.

The present Government Abattoir in Malta was built about 70 years ago and the facilities and hygienic conditions existing therein are not ideal. Government has, therefore, decided to build a new abattoir, which would have all the necessary facilities and equipment of a first-class abattoir.

FIELD ACTIVITIES

Activities in the Field consist in the prevention, control and eradication of animal diseases, and in artificial insemination.

Prevention

Whereas Malta is self supporting in respect of fresh pork and mutton, yet, for its supply of fresh beef, it must rely on imports. Out of the total number of 9,017 cattle slaughtered during the year under review only 3,171 were locally reared. The remaining 5,846 had to be imported as store cattle from different European countries, mainly from Yugoslavia, Bulgaria and Roumania. The imported cattle are fattened from 3 to 5 months before they are slaughtered.

This importation carried out throughout the whole year, constitutes a real and serious danger of introducing some infectious or contagious disease. Very strict precautions, however, are taken before any consignment of store cattle is allowed into Malta. In fact no Import Licence is granted for the importation of store cattle, from any country, unless that country has been free from Foot and Mouth Disease, at the time of loading, for at least two months.

By adopting such measures, Malta has remained free from Foot and Mouth Disease since 1946, a very good record indeed.

Besides the strict control exercised before granting an Import Licence, all cattle are examined immediately on arrival. They are then kept under observation for another 3 to 5 days and again examined before they are released.

Horses are likewise examined on arrival, and dogs and cats imported from countries where Rabies is known to exist, are kept in quarantine for six months in Government Quarantine Kennels. The same period of quarantine is imposed on dogs and cats coming from Rabies-free countries, if they happen during transit to have travelled through countries where Rabies exists.

Control and eradication of diseases

One of the obstacles which the Veterinary Service is faced with in its fight against animal diseases is the indiscriminate use of antibiotics by farmers before they call for professional help. Legislation, which limits the sale of these antibiotics, exists, but it is common knowledge that farmers succeed in obtaining them without a prescription from a Veterinary Surgeon.

(a) Bovines

Up to the end of 1970 nearly all milch cows were tested. The number of T.B. reactors were 39. All of them were slaughtered. We are now in a position to say that the farms with more than five cows which have a positive reaction are very few and the main foci are four. It can be said that we are in the last stage of the eradication of T.B. in cattle in Malta and it is hoped that, provided funds are available, the long battle

to eradicate this disease will soon be won.

Mastitis in cattle still persists. However, as farmers have got into the habit of buying without prescription intramammary penicillin and injecting it into the diseased udders, irrespective of the bacteria causing the disease, we cannot have a real picture of the incidence of the disease in cows.

Enteritis continued to cause many deaths among calves. In Malta, it is thought that enteritis in calves is due to bad management and mortality can be reduced by feeding the cows with well-balanced rations by having calving boxes which can be easily disinfected and by having separate calf pens.

(b) Swine

Diseases in pigs are very few as the large pig-units are very well managed. The progress of the pig industry has been marvellous.

Swine Fever is a thing of the past in Malta. No cases have been reported in the last three years. This is the result of the law enacted by Government to have all pigs vaccinated against Swine Fever.

In view of the healthy state of affairs the enforcement of the law has been relaxed. During, 1970, only 7,485 pigs were vaccinated against Swine Fever.

Swine Erysipelas which used to be very common is now very rare thanks mainly to the issue of free vaccine by the Department.

Enteritis in piglets and weaners is fairly common. The majority of cases were associated with E. Coli infections or with sudden change of feed.

(c) Caprines

The principal disease affecting goats is Brucella Melitensis.

Although the incidence of Pregnancy Toxaemia is small, the condition often leads to the death of the animal. It is a pity that the help of the Veterinary Surgeon is often sought when the animal is very near to death.

Mastitis in goats and sheep is fairly common. The same remarks made in connexion with mastitis in cattle apply in this case.

(d) Poultry

1970 saw the biggest outbreak of Newcastle Disease in the last seven years. About 24,000 died or had to be slaughtered.

On the 18th June, birds brought for post-mortem findings at the Veterinary Diagnostic Laboratory gave a strong indication that two farms within half a mile of each other in the limits of Xghira had apparent lesions of Newcastle Disease. On the spot investigations and laboratory tests on pigeons showed that the foci were really the dreaded Newcastle Disease.

Immediately every available man in the Veterinary Service was engaged in the slaughtering and burning of birds, and the disinfecting of the place.

The area of the outbreak is an isolated part in Malta, but in an area of half a square mile there are concentrated four poultry farms of quite an appreciable size. The infection quickly spread to the largest farm in the area (9,000 birds) and the strenuous jobs of slaughtering, burning and disinfecting were repeated. In epidemics of this nature the time factor is extremely important. Extra men (casual) were employed to enable us to finish the work with the maximum speed. The Police were called to guard the affected places to prohibit all movements in and out of these farms. Notwithstanding all our efforts, the infection spread to the other two farms, which almost touch each other. Three days after the last outbreak in this area, the disease was discovered on a farm on the way to Marsascala. Immediate action was taken and the spread of the disease was successfully arrested.

Other poultry diseases reported in 1970 were fowl-pox, sinusitis and E. Coli.

Artificial Insemination

1,599 inseminations were carried out during 1970; that is an average of 133 a month. The total number of inseminations was 101 less than in 1969. In 1232 cases frozen semen was used while in the other cases (367) fresh semen from the bulls at the Government Farm was used.

In October, 1970, Dr. A.Forteath, who is in charge of the A.I. Centres of the U.K. Milk Marketing Board, paid a visit to Malta. He was very pleased with the progress we had made since he was last here in 1965.

DIAGNOSTIC WORK

1076 post mortem examinations (involving 501 owners) were made in 1970. Deaths were confirmed to be for the following reasons:

Poultry	Salmonellosis	60
	Coccidiosis	120
	Paritenitis	80
	Fowl Pox	84
	Pullet disease	30

	E. Coli infections	110	
	Coryxa	26	
	Bad Management	116	
	Prolapses	31	
	Mereck disease	16	
	Gambons	8	
	Leukosis	21	
	Vitamin Deficiencies	48	
	Parasitis	29	
	Newcastle Disease	95	
			876
Swine	Enteritis	96	
	Infectious Preumonia	41	
	Bad Castrations	7	
			174
Cattle	Milk/Mastitis	26	
			26
			1,076

All post mortem examinations were carried out free of charge.

The Diagnostic Laboratory plays a very important part in the fight to control and eradicate diseases in animals

XII CO-OPERATIVE SOCIETIES

The Co-operative Societies Division is entrusted with the registration, supervision and auditing of accounts of the Co-operative Societies as required by the Co-operative Societies Ordinance and Regulations of 1946.

The Co-operative Societies on 31st December, 1970, were:

Primary

Agricultural Produce	16	(3 in course of liquidation)
Agricultural Equipment	4	(3 in course of liquidation)
Tailors (supply)	1	(1 " " " ")
Milk Producers	1	
Consumers	4	(2 in course of liquidation)
Milk and Agricultural Producers	1	
Wine Producers	1	
Egg Producers	2	(2 in course of liquidation)
Agricultural Trading	1	
Fisheries Co-operative	1	

Central

Agricultural	1
	33

Excluding members of Societies in liquidation the total number of members of Co-operative Societies was 2,230 at the end of the year.

The principal assets and liabilities of the Co-operative Societies at the end of the year were:

Liabilities:

Shares	£ 8,047	
Reserves and Provision	51,423	
Creditors	154,025	
Disposable Balances	26,632	
Loans	93,734	
		£406,291

Assets:

Immovables	£164,302	
Movable and Stock	53,393	
Debtors	140,283	
Investments	7,434	
Cash in hand and at Bank	28,391	
Deficiency in Capital	7,770	
		£406,291

Co-operative Societies dealing in the sale of agricultural produce were given £9,239 in 1970, as a Government contribution towards marketing expenses.

Since 1956, the following loans and grants were made to Co-operative Societies under the Agriculture and Fishing Industries (Financial Assistance) Act, 1956:

	Loans	Grants	Totals
(a) Dingli Farmers Co-op. Soc.	382	255	637
(b) Safi Agric. Equipment Co-op Soc.	92	60	152
(c) Farmers Wine Co-op. Soc.	24,000	16,000	40,000
(d) Malta Producers' Co-op Soc.	23,099	15,399	38,498
	£47,573	£31,714	£79,287

XIII FISHERIES

Local Fresh Fish

Total local landings from January to December, 1970 amounted to 1,462,116 rtal of which 1,169,600 rtal were auctioned directly at the Valletta Wholesale Fishmarket while the rest is estimated to have been hawked by fishermen in other districts. Initial landings for the first half of 1970 were less than those of the previous year and up to August, landings for the eight months of 1970 amounted to 848,681 rtal while those of the same period of the previous year were 873,603. Persistent rough weather during the dolphin-fish season reduced the landings by 8% of those of the previous year, i.e. 229,651 in 1970 and 252,245 in 1969. This decrease of some 23,000 rtal in dolphin-fish landings was offset by the more abundant lampara catches which totalled 332,700 rtal. This is reflected in the total annual landings for 1970 which were 5,415 rtal more than the total for the preceding year.

Imported Fresh Fish

The total weight of imported fresh fish which was sold at the wholesale fishmarket during 1970 amounted to 45,525 rotoli. The wholesale value was £13,037. Most of the fish landed was trawled whilst tunny, mackerel and blue fish were also landed in limited quantities. 58 permits were issued to foreign vessels for the landing of fish and £514.13s.10d. were collected as Levy Tax. As always, all fish was landed under the surveillance of a Fisheries Officer and a Customs and Port Officer.

Licences and Permits

Fishing craft, fishing implements, fish-hawkers and pitkali (middle-men) are licensed by this office. These licences are normally renewable every year. Special permits are also issued for fishing sites during the dolphin-fish season and for fishing within Grand Harbour and Marsamxett Creek for particular species of shoaling fish. Special permits for foreign vessels to land fish are also issued when local catches do not meet fully the demand at the Valletta wholesale fishmarket.

During 1970, the following licences to make use of fishing implements were issued:

Lampara nets	19
Terrieha	36
Tartarun	41
Kopp taċ-ċkal	16
Gangmu	45
Trawl nets	5
Parit	199
Other Implements	23
Lights, Sponge glass and Pots	165
Special Permits	7

Pitkali

The number of pitkali licensed to sell fish during 1970 at the wholesale fishmarket was as follows:

Local	12
Foreign	2

Licences which are issued to pitkali are renewed at the biginning of each year.

The number of vouchers issued by pitkali was 82,287, each of which was vetted and stamped by a Fisheries Officer on duty at the wholesale fishmarket in the early hours of each working day.

Hawkers

The wholesale fishmarket was daily frequented by approximately 360 fish hawkers throughout the year but this number was augmented by about 180 during the lampuki season.

20 new applications were received by persons to act as fish-hawkers, all of which were approved.

Financial Assistance to Fishermen

The total awards of Government Financial Assistance amounted to £18,972 in the form of loans at 1% interest and £11,300 in the form of grants.

£746 in loans and £447 in grants were awarded for the purchase of equipment, repairs and overhauls and £5,761 in loans and £3,456 in grants were awarded for modifications to craft and for the construction of smaller boats.

From the above-mentioned loans and grants, eleven fishermen benefited. Of these, eight were Maltese and three were Gozitans.

The majority of the repayments of loans and interest were made by deducting 10% or 5% from the proceeds of catches.

Fishing Equipment Supply Service

Within the limits of funds allocated for the running of the F.E.S.S., steps were taken to keep the stores well stocked with fishing materials. During the calendar year 1970, £9,294. 8s. 8d. of fishing equipment was purchased. The corresponding sale of fishing material for the same period under review amounted to no less than £12,197. 0s. 0d. The only subsidy paid this year was on corkwood and nylon nets. It amounted to £556. 10s. 7d. The sum of £750. 2s. 11d. was also availed of from the 'Incentives' to purchase sundry fishing equipment; the corresponding subsidies amounted to £73. 14s. 3d. and were allowed on sisal rope.

Maintenance and improvement of fishing Centres

Repairs were carried out to slipways at Wied iz-Zurrieq, St.Paul's Bay, Ghar Lapsi, St.Thomas Bay, Cirkewwa, Mellieha, Wied Musa and Marsaxlokk in Malta and at Xlendi in Gozo.

An area at Marsaxlokk harbour was dredged, a jib crane was purchased for Xlendi (Gozo) and moles at St. Julians, Xghira and St.Paul's Bay were extended.

Kannizzati Fishery

As in previous years the allocation of sites 'in situ' was carried out successfully by this Division. This involves planning in advance to ensure that the best possible use is made of these sites by fishermen.

The following kannizzati sites per district were allotted and laid by this Division:

District	No. of sites
St. Paul's Bay	11
Valletta	9
Marsaskala	7
Marsaxlokk S.E.	4
Marsaxlokk S.W.	24
Wied iz-Zurrieq	3
Gnejna	2
Mgarr S.W.	10
Xlendi	8
Marsalforn	4
Mgarr N.E.	6

Training

Technical advice on fisheries developments and related subjects continued to be imparted through regular Sunday broadcasts, departmental publications and directly to groups and individual fishermen as well as students. The experience obtained from an initiatory course in Fisheries is being assessed in the light of L.L.O. Conventions and new Shipping Regulations and new courses are envisaged leading to certification of fishing grades particularly skippers and engineers.

Experts

The Food and Agriculture Organization of the United Nations appointed Mr. D. Richardson of the British White Fish Authority to assess the situation and needs of the local fishing industry as part of an overall survey of Agriculture and Fisheries in Malta.

I.O.C.

The United Nations Educational, Scientific and Cultural Organization accepted Malta's membership of the Intergovernmental Oceanographic Commission in March, 1970.

Pacem in Maribus

The International Frontiers of the Sea Convention "Pacem in Maribus" was held in Malta in June/July 1970 to work out proposals for the limitation of the seabed to peaceful uses.

Research

See Chapter V.

XIV GOZO SECTION

The area of agriculture land in Gozo in 1969 was 27,199 tumoli out of which only 479 were irrigated.

In 1969, the farm population was 12,140 whereof 1,525 were full-time farmers, 1,985 were part-timers, 2,825 were children under 14 years of age, and 5,805 did not work on their farms.

FRUIT DEVELOPMENT

One of the main activities of the Gozo Section is the development of fruit production.

During 1970, over 11,000 rootstock of different kinds of fruit trees were propagated. Moreover, 3,000 Seville orange seedlings were transplanted in different stages, and 100 banana seedlings and 200 kaki seedlings were planted.

The following fruit trees were sold during the year under review to farmers and amateur gardeners in Malta and Gozo:

Fruit Trees	Gozo	Malta	Total
Apples	778	-	778
Bambinella	353	600	953
Bitter Almonds	1	-	1
Black Mulberries	1	-	1
Cherry	9	-	9
Figs	21	125	146
Kaki	20	-	20
Lemons	24	79	103
Loquats	108	-	108
Nectarines	215	100	315
Olives	11	-	11
Oranges	29	94	123
Oranges (Seville)	1	-	1
Peaches	2,412	1,500	3,912
Pears	724	2,000	2,724
Plums	671	400	1,071
Pomegranates	75	-	75
Vines (Grafted)	463	300	763
	5,916	5,198	11,114

VITICULTURE & OENOLOGY

Wine Production

Licences were issued to 52 commercial vintners and 107 private vintners in 1970. 455,220 rotoli of grapes were pressed in Gozo while 9,576 rotoli were shipped to Malta for pressing.

Vine Plantations

The following are the figures for vine rootstock sold to Gozo farmers during the last 5 years:

Year	No. of Vines
1966	13,816
1967	11,792
1968	19,797
1969	28,500
1970	47,000

Out of the rootstock sold in 1970, 13,000 were produced locally.

Government Experimental Vine Station

These vineyards, laid out in 1963, comprise 21 varieties of wine grapes and 18 varieties of table grapes.

These vineyards are always properly maintained and serve as an experimental and demonstration centre.

Experimental Sub-stations on Privately owned Lands

There are now nine sub-stations in wine growing areas in Gozo.

PUBLIC GARDENS, PLANTATIONS AND AFFORESTATION

Villa Rundle

These gardens covering an area of 4 acres are the only recreational grounds in Victoria.

The administration of these gardens is carried out in conjunction with the Gozo Civic Council.

A great number of annual and biennial flowers as well as many flowering bulbs were planted in these gardens making a beautiful display of colours, especially during Spring.

The Gozo Agricultural, Industrial and Cultural Show was also held as usual in these Gardens on the 14th/15th August, 1970.

Nurseries

The two nurseries in Gozo namely "tad-Dawwara" and "Kercem" are supplying all our departmental requirements in Gozo as well as the public demand for trees and shrubs.

Very often these Nurseries are visited by public and tourists alike. Advice on the cultivation of trees and shrubs is frequently given by the Staff on the spot.

During the year about 50,000 cuttings of ornamental trees and shrubs were propagated in open ground and in pots. Over 3,000 ornamental trees were sold to the public from these nurseries.

Public Plantations and Afforestation

All plantations along public roads, flower beds, playing fields and open spaces were duly attended to as regards strutting, howing, watering and pruning.

In January, 1970 "The Plant a Tree in Gozo Committee" was formed. This Committee's aim is to create a national conscience in Gozo for the love of trees. On the initiative of the Committee, "Ulysses Grove" (bordering the main road leading to Victoria from Mgarr) was inaugurated by the Hon. Prime Minister in April, 1970. 3,000 trees were planted in the grove.

In all, during 1970, over 7,000 trees and shrubs were planted in Gozo.

Sales

The following were the sales from Public Gardens and Nurseries:

Vegetables	7,041	rotoli
Veg. seedlings	15,435	
Flower Bouquets	135	
Flower Wreaths	237	
Ornamental plants	3,144	
Sweet Pepper	31	dozens
Peaches	410	rotoli
Grapes	1,056	"
Roses	687	blooms
Carnations	6,020	"
Palm leaves	346	
Strawberries	5	lbs
Plums	135	rotoli
Pears	51	"
Apples	8	"
Onions	300	"
Cucumbers	553	"
Melons	508	"
Tomatoes	888	"

ANIMAL HEALTH AND PRODUCTION

Veterinary Services

T.B. and Brucellosis testings continued during the year.

The following services were carried out by the Veterinary Assistant during 1970:

Vaccination against Swine Fever	312
" " " Erysepelas	476
" " " Anaemia	186
Vaccination of kids	33
" " poultry against fowl-pox	39,000
Advisory visits to Herdsmen	131
" " " Poultrymen	363

Civil Abattoir

The number of livestock heads slaughtered at the Gozo Abattoir during the year 1970 was 4,941 during normal hours and 186 outside normal hours (emergency), a total of 5,127.

Government Livestock Centre

The main purpose of the Centre is to provide good stud livestock and services to Gozo farmers. It serves also as a demonstration centre to farmers.

Many farmers availed themselves of the free services of this Centre as follows:

Swine	102
Bovines	23
Artificial Insemination (bovines only)	163
Caprines	125
Rabbits	256

At the end of the year the Centre had the following livestock:

Swine	3 sows, 3 boars, 5 gilts
Bovines	1 bull
Ovines	7 sheep, 6 ewe lambs
Caprines	2 billy goats
Fowls	2 ganders, 3 geese, 6 pheasants, 5 guinea fowls, 27 mullards.
Rabbits	Flemish Giant - 6 does, 9 bucks, 16 sucklings N.Z.W. - 13 does, 11 bucks, 10 sucklings Local - 13 does, 7 bucks, 12 sucklings

Sales from the Centre during the year were the following:

Eggs	899
Fresh Cheeselets	933
Swine	41
Rabbits	80
Ducks	17
Turkeys	3
Sheep	23
Milk	715 gallons
Wool	52½ rotoli

LAND AND WATER USE

Preservation of Fertile Soil

The following table shows the number of inspections carried out during the year, number of building sites affected and soil removed:

Month	Inspections	Building Sites	Cub.yds of Soil removed
Jan/Feb	25	10	291
March	20	8	175
April	18	8	205
May	16	11	190
June	26	14	775
July	30	19	855
August	28	19	550
September	24	17	610
October	20	17	290
November	32	18	460
December	30	17	225
Total	269	153	4,626

In addition 25,150 cub. yds of soil were removed by the P.W.D. to different sites for reclamation purposes.

Land and Crop Assessments

The following assessments in connexion with agricultural land taken for various reasons from farmers were carried out during the year by the Agricultural Inspector for the Government Departments mentioned hereunder:

Public Works Department	162
Gozo Civic Council	16
Malta Electricity Board	32
Water Works Department	2

Agricultural Land Registration

The number of transfers and cancellations of land during the year amounted to 170.

EXTENSION SERVICE

Visits and inspections by the available staff of the Extension Service in Gozo included:

a) Inspection of Glasshouses
b) Inspection of herdsmen
c) Inspection of fruit orchards and Experimental Vineyards
d) Inspection of Poultry Units
e) Vetting of applications under the loans and Grants Scheme.

FINANCIAL ASSISTANCE

The following number of farmers benefited from Government Financial Assistance during the year:

1 for repairs and construction of Reservoir
1 for construction of a Pig Unit
22 for purchase of Rotary Cultivators
1 for construction of a glasshouse

PLANT PROTECTION SERVICE

The following spraying services were carried out during the year:

Fruit trees	-	500
Ornamental trees and Shrubs	-	1000
Crops	-	30 tumoli

TABLE 1

Weights and Measures

1. Weights

Maltese	English	Metric
1 Ratal	1.75 lbs	0.79 kg.
1 Wizna	8.75 lbs	3.97 kg.
1 Qantar	175.00 lbs	79.38 kg.
1280 Rtal	2240.00 lbs	1016.00 kg.

2. Measures of Capacity

1 mondello	0.66 gallons	3.03 litres
1 garra	2.38 gallons	10.80 litres
1 tomna	4.00 gallons	18.18 litres
1 barile	9.50 gallons	43.19 litres
1 Salma	64.00 gallons	290.88 litres

3. Measures of Length

1 Pulzier	0.86 inches	21.83 mm
1 Xiber (12 pulzier)	10.31 inches	26.19 cm
1 Qasba (8 t'ixbar)	2.29 yards	2.10 m

4. Measures of Area

1 Qasba kwadra	5.25 sq.yards	4.39 sq.metres
1 Kejla	22.41 sq.yards	18.735 sq. metres
1 Siegh (10 kejliet)	224.10 sq.yards	187. 35 sq.metres
1 tomna (6 sieghan)	0.278 acres	0.11 hectares
1 Wejba (4 tmien)	1.11 acres	0.45 hectares
1 Modd (4 wejbiet)	4.44 acres	1.80 hectares

5. Measures of Volume

1 Xiber Kubu	0.63 cu.ft.	17.97 dm^3
1 Qasba Kubu	12.04 cu.yds.	9.20 dm^3

NOTE: An acre is equivalent to 3.6 tmien
A tomna is a square with sides 110ft long.
A hectare is equivalent to (i) 9.1 tmien
(ii) 2.471 acres.

Farm Population and Land Distribution (1961 - 1969)

i) Farm Population

	1961	1963	1964	1965	1966	1967	1968	1969
Wholetime farmers	7,330	6,858	6,737	6,476	6,283	6,232	5,921	5,515
Part-time farmers	8,815	8,751	9,124	8,281	8,615	8,452	8,410	8,738
Farm population not engaged in farming	20,175	21,001	20,411	20,523	21,032	21,332	21,677	22,294
Children	17,191	15,779	14,741	13,549	13,282	12,433	11,640	11,159
	53,511	52,389	51,013	48,829	49,212	48,449	47,648	47,706

ii) Land Distribution

MALTA Agricultural Land	1961 Tmien	1963 Tmien	1964 Tmien	1965 Tmien	1966 Tmien	1967 Tmien	1968 Tmien	1969 Tmien
Dry	105,543	100,687	99,613	96,750	96,831	94,393	93,247	93,152
Irrigated ...	5,470	5,585	5,287	5,048	5,624	5,668	5,473	5,224
Waste	18,860	18,064	17,712	16,627	15,988	16,878	15,403	15,874
Total	129,873	124,336	122,612	118,425	118,443	116,939	114,123	114,250
GOZO								
Dry	27,866	27,642	26,626	25,781	25,507	25,397	24,702	24,677
Irrigated ...	689	624	560	533	545	571	523	479
Waste	1,757	1,953	2,037	1,821	2,079	1,730	1,949	2,043
Total	30,312	30,219	29,223	28,135	28,131	27,698	27,174	27,199
Total Malta & Gozo	160,185	154,555	151,835	146,560	146,574	144,637	141,297	141,449

TABLE 2

	1961		1963		1964		1965		1966		1967		1968		1969	
	Qty	£'000	Qty	£'000	Qty	£'000	Qty	£'000	Qty	£'000	Qty	£'000	Qty	£'000	Qty	£'000
LIVESTOCK PRODUCTS																
MEATS: Tons	6,481	2,012	704	2,013	6,396	2,202	6,097	2,199	6,316	2,234	6,514	2,335	7,626	2,703	7,986	2,910
MILK: '000 Gals	5,043	1,198	4,914	1,112	4,993	1,061	4,839	1,127	4,926	1,167	4,762	1,116	5,177	1,252	5,320	1,315
EGGS: '000 Doz.	2,144	322	2,913	534	3,460	560	4,613	807	3,756	587	4,544	710	5,593	1,032	5,199	918
HIDES & SKINS: Tons	473	56	466	55	489	60	605	83	605	86	642	82	700	90	322	50
CROPPING PRODUCTS																
CROPS: Tons	12,173	277	10,509	221	10,861	223	11,665	229	9,070	166	11,376	214	9,207	201	9,443	198
VEGETABLES: Tons	46,796	1,209	44,921	1,131	41,876	940	33,185	918	34,478	1,030	37,318	1,183	39,890	1,126	47,181	1,512
FRUITS: Tons	9,760	391	7,880	312	5,696	202	6,333	228	5,968	268	6,044	353	6,179	296	6,158	503
FLOWERS AND SEEDS:	-	94	-	226	-	209	-	276	-	326	-	367	-	423	-	325
FARM CONSUMPTION																
MILK: '000 Gals	567	130	555	127	419	88	597	136	521	120	446	106	442	107	372	91
MEAT: Tons.	144	45	197	62	323	124	400	164	334	139	344	145	588	236	560	227
EGGS: '000 Doz.	429	64	728	134	840	140	1,152	202	939	147	986	134	1,214	246	1,128	199
CROPS: Tons	22,534	494	21,020	443	21,725	446	23,331	469	18,140	333	22,753	431	18,415	403	18,888	396
VEGETABLES: Tons	4,559	242	1,230	283	10,469	235	8,296	229	8,619	257	8,329	296	13,297	377	15,727	507
FRUITS: Tons	1,472	78	1,970	78	1,424	50	1,583	60	1,491	66	1,511	87	2,060	99	2,053	168
STOCK ADJUSTMENT																
INC/DEC. in Livestock																
Horses: (Number)	+31	+2	-19	-1	-48	-3	-105	-7	-75	-5	+53	+2	-128	-2	+24	+1
Donkeys: do	-185	-6	-176	-6	-129	-5	-165	-7	-80	-3	-43	-1	-90	-1	-126	-2
Mules: do	-73	-4	-101	-5	-87	-4	-119	-7	+20	+1	-108	-4	-67	-1	+28	+1
Horned Cattle: do	-1212	-182	-135	-202	+262	+39	-729	-109	+879	+73	+712	+67	+1,001	+67	-1,001	-67
Sheep: do	-1413	-14	-541	-5	+165	+2	-742	-9	+206	+2	-729	-7	-928	-4	-214	-1
Goats: do	-3676	-36	-704	-7	-1129	-11	-3197	-38	-1179	-14	-1373	-7	-3,266	-7	-1,514	-3
Pigs: do	+2346	+118	-636	-51	-2339	-70	+1748	+51	+8175	+120	+99	+2	-89	-1	+7939	+111
Poultry: do	+18,275	+13	+36789	+30	+17661	+4	+43,272	+11	-79,567	-97	+13,152	+5	+319481	+96	-171,403	-51
INCENTIVES																
SUBSIDIES:	-	8	-	6	-	6	-	8	-	3	-	-	-	5	-	5
GRANTS:	-	13	-	10	-	26	-	28	-	21	-	27	-	40	-	39
		£6,594		£6,500		£6,524		£7,042		£7,027		£7,663		£8,813		£9,361
Less Expenses:		3,545		3,572		3,722		3,903		3,683		3,984		4,567		4,456
INCOME OF FARMERS		£3,049		£2,928		£2,802		£3,139		£3,344		£3,679		£4,246		£4,905
WHOLE-TIME FARMERS		7,330		6,858		6,737		6,476		6,283		6,232		5,921		5,515
PART-TIME FARMERS		8,815		8,751		9,124		8,281		8,615		8,452		8,410		8,738
FARMERS TOTAL **		9,534		9,045		9,018		8,546		8,437		8,345		8,023		7,700
AVERAGE Net Income		£320		£324		£311		£367		£396		£441		£529		£637

TABLE 2

EXTERNAL TRADE OF AGRICULTURAL PRODUCTS

(in thousands of Maltese Pounds)

	1961		1962		1963		1964		1965		1966		1967		1968		1969		1970	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
LIVE ANIMALS	511	-	497	1	524	24	538	5	443	11	563	29	616	20	536	56	550	29	533	16
MEAT AND MEAT PREPARATIONS	1,235	-	1,089	3	1,240	5	1,489	3	1,310	1	1,334	9	1,828	106	2,244	599	2,770	815	2,394	28
DAIRY PRODUCTS EGGS AND HONEY	1,512	3	1,443	4	1,379	16	1,347	14	1,378	21	1,465	45	1,350	17	1,601	26	1,554	8	1,759	2
FISH AND FISH PREPARATIONS	293	-	242	-	329	-	285	-	287	-	389	-	381	1	381	6	448	1	583	1
CEREALS & CEREALS PREPARATIONS	2,356	3	2,309	12	2,687	15	2,763	15	2,552	20	2,773	19	2,878	28	3,202	55	3,540	62	3,765	31
FRUITS AND VEGETABLES	1,874	456	1,889	456	1,663	565	1,881	322	1,551	429	1,952	656	1,680	482	1,934	697	2,243	658	2,280	673
WINE	69	56	63	149	62	241	73	300	60	300	62	335	84	311	147	369	131	255	168	43
HIDES, SKINS, etc.	-	60	-	41	-	53	-	35	-	40	-	37	7	38	42	48	76	45	42	31
FEEDING STUFFS FOR ANIMALS	568	-	595	1	517	2	610	2	815	2	822	10	717	-	875	2	1,022	2	1,048	11
ANIMAL AND VEGETABLE OIL	338	134	24	4	315	178	498	348	487	255	331	53	326	16	387	141	208	185	685	227
FLOWERS AND SEEDS FOLIAGE, etc	81	87	53	135	41	207	36	195	51	229	47	267	18	303	75	337	44	244	47	123
TOTALS	£8,837	£799	£8,204	£806	£8,776	£1,306	£9,520	£1,239	£8,934	£1,308	£9,658	£1,460	£9,885	£1,322	£11,424	£2,336	£12,586	£2,304	£13,304	£1,186

TABLE 4

Imports of Seed Potatoes

Quantities in Metric Tons (1,000 kilos)

Year	Arran Banner	Alpha	Craigs Royal	Pentland Dell	Total
1964	2,503	1,551	100	-	4,154
1965	1,696	1,127	50	½	2,373½
1966	1,339	2,180	25	-	3,544
1967	2,050	1,320	15	5	3,390
1968	1,850	1,700	90	110	3,750
1969	2,040	1,550	30	30	3,650
1970(a)	2,039	1,330	-	-	3,369

(a) Whereof 89 tons (Arran Banner) and 730 tons (Alpha) were actually received in January/February, 1971

TABLE 5

Export of Potatoes (1948 - 1970)

Year	Metric Tons				Value £	Average Price per ton £
	U.K.	Nether-lands	Other Countries	Total		
1948	177	-	-	177	4,655	26
1949	1,572	-	-	1,572	47,507	30
1950	6,809	199	2,891	9,899	290,880	29
1951	4,311	-	2,082	6,393	204,330	32
1952	2,832	-	2,521	5,353	148,146	28
1953	6,025	-	2,292	8,317	279,060	34
1954	4,201	1,541	83	5,825	136,034	23
1955	7,477	602	-	8,079	186,308	23
1956	6,737	-	3,055	9,792	306,834	31
1957	4,173	932	720	5,825	104,961	18
1958	9,257	-	197	9,454	353,080	37
1959	9,924	1,106	150	11,180	271,665	24
1960	9,266	2,676	506	12,448	370,887	30
1961	6,243	3,387	261	9,891	383,658	39
1962	4,955	1,106	10	6,071	371,684	61
1963	8,163	3,174	3	11,340	486,724	43
1964	6,874	1,923	290	9,087	246,530	27
1965	3,015	4,457	-	7,472	368,229	49
1966	2,874	6,896	756	10,526	466,986	44
1967	6,247	4,395	46	10,688	375,503	37
1968	9,272	3,626	546	13,444	492,132	37
1969	8,099	5,709	55	13,863	525,824	38
1970	1,502	10,076	250	11,828	567,425	48
Totals	130,005	51,805	16,714	198,524	£6,989,042	

TABLE 7

Export of Onions (1948 - 1970)

Year	Metric Tons				Value £	Average Price per ton £
	U.K.	Nether-lands	Other Countries	Total		
1948	266	-	-	266	4,888	18
1949	-	-	-	-	-	-
1950	489	-	377	866	10,752	12
1951	1,017	-	-	1,017	14,243	14
1952	702	74	64	840	20,363	24
1953	2,514	-	185	2,699	31,119	12
1954	2,352	-	437	2,789	33,238	12
1955	909	-	121	1,030	13,276	13
1956	463	40	-	503	9,568	19
1957	859	-	-	859	13,181	15
1958	1,554	-	40	1,594	28,194	18
1959	2,393	-	-	2,393	23,897	10
1960	567	108	2	677	18,751	28
1961	273	265	-	538	14,411	27
1962	1,862	300	115	2,277	71,204	31
1963	1,852	246	65	2,163	51,938	24
1964	2,250	63	-	2,313	55,915	24
1965	1,078	-	-	1,078	28,227	26
1966	3,842	577	-	4,419	154,013	35
1967	1,524	198	-	1,722	77,297	45
1968	5,619	150	84	5,853	168,632	29
1969	2,210	237	-	2,447	80,001	33
1970	1,775	-	-	1,775	61,944	35
Totals	36,370	2,258	1,490	40,118	£985,052	

TABLE 8

SALES THROUGH PITKALI MARKETS - VEGETABLES

(supervised by officials of the Department)

VEGETABLES	1968 WEIGHT Rtal	1968 VALUE £	1969 WEIGHT Rtal	1969 VALUE £	1970 WEIGHT Rtal	1970 VALUE £
Artichokes (G)	795,867	13,531	780,082	12,906	669,029	15,697
Artichokes (J)	75,055	2,609	66,086	3,908	105,285	3,851
Beans Broad	622,045	11,135	775,238	17,729	609,334	20,941
Beans French	79,412	5,028	63,714	7,352	100,222	7,398
Beetroot (Unt.)	176,715	2,195	205,147	3,011	217,336	3,133
Bellpepper	211,645	7,671	219,974	10,800	237,435	12,380
Broccoli	5,451	144	4,452	169	4,970	167
Brussels Sprouts	7,617	4,135	10,696	1,750	10,828	2,012
Cabbages	2,394,783	29,833	2,301,970	39,941	1,931,646	43,941
Carrots	12,148	227	18,469	340	50,314	1,239
Carrots (Unt.)	1,169,700	16,567	1,333,737	22,777	1,263,339	23,345
Cauliflowers (T)	1,804,769	11,836	2,474,797	29,947	334,607	8,539
Cauliflowers (Unt.)	3,799,449	35,651	2,283,972	28,315	3,050,275	65,526
Celery	404,825	6,139	448,927	7,669	430,892	9,122
Centenary	530	15	302	9	1,746	61
Chickpeas	28,057	416	19,344	251	56,118	655
Cucumber	127,993	6,148	126,457	10,465	105,488	8,289
Eggplant	230,672	5,494	202,144	7,589	242,139	6,210
Endive	147,978	1,724	179,311	2,521	230,525	4,366
Fennel	55	2	265	8	1,098	22
Garlic Dry	72,783	2,145	37,191	674	23,239	2,100
Garlic Green	176,970	7,200	160,177	1,619	133,904	3,949
Gourds	165,759	3,235	177,766	5,734	194,889	3,563
Kohlrabi	1,250,277	17,538	1,383,267	21,476	1,232,102	22,632
Leeks	12,683	205	15,937	261	14,103	225
Lettuce	933,625	22,399	1,063,357	32,122	956,893	25,828
Marrows Long	274,938	7,821	239,320	8,249	361,717	7,268
Marrows Vegetable	1,261,246	35,154	1,011,405	62,291	1,456,370	65,753
Mint Herbs	784	15	116	27	772	21
Onions Dry	969,481	12,907	1,157,989	26,636	972,777	36,266
Onions Green	536,526	5,612	586,027	8,166	689,289	25,286
Onions Pickles	5,060	77	103	2	451	21
Parsley	78,170	2,099	81,076	2,324	80,271	3,110
Potatoes Spring	4,558,057	94,432	2,707,225	89,077	4,163,494	137,458
Potatoes Winter	2,280,426	65,995	2,846,353	59,433	2,904,753	85,821
Pumpkins	991,155	18,795	730,522	33,985	727.834	29,044
Peas	225,826	9,049	195,594	11,989	304,265	9,244
Radishes	5,525	130	8,274	255	10,098	326
Seakle Beet	305	6	148	3	75	1
Spinach	248,294	6,336	296,420	5,728	248,990	8,954
Tomatoes Eng.	619,768	21,500	688,564	69,322	789,185	75,859
Tomatoes R.	995,730	21,948	1,192,400	32,148	1,297,426	29,411
Tomatoes O.	1,082,330	22,457	711,579	20,756	996,452	20,014
Turnips	42	1	236	4	-	-
		£537,897		£699 738		£829,049

TABLE 9

SALES THROUGH PITKALI MARKETS - FRUITS

(supervised by officials of the Department)

FRUITS	1968 WEIGHT Rtal	1968 VALUE £	1969 WEIGHT RTAL	1969 VALUE £	1970 WEIGHT RTal	1970 VALUE £
Apples	192,062	7,796	142,903	12,366	131,844	9,364
Apricots	4,209	415	1,881	350	1,717	316
Bambinella	40,789	832	13,244	2,525	22,454	3,673
Banana (Heads)	559	9	115	3	383	9
Blackberries	5,032	309	5,615	470	6,685	539
Cherries	217	61	144	117	96	47
Figs Dry	10,698	260	1,111	39	1,394	82
Figs Early	259,686	5,728	247,521	10,892	166,462	10,555
Figs Late	84,492	1,921	60,154	2,641	29,885	1,520
Grapes	467,619	22,438	354,844	19,943	368,050	30,720
Grapefruit	64	8	140	4	109	3
Lemon (Dozens)	97,297	9,859	71,696	11,319	116,014	10,871
Lemons Sweet	370	16	238	13	375	23
Medlars	18,337	591	15,498	793	16,504	695
Melons Sugar	679,044	12,592	344,950	19,617	668,185	30,708
Melons Water	399,293	8,669	140,166	6,857	257,543	10,667
Melons Winter	369,743	7,008	63,750	2,872	201,028	7,279
Mulberries	810	26	1,388	38	781	32
Nectarines	2,319	175	240	35	214	17
Olives	505	22	1,410	67	-	-
Oranges (Dozens)	52,308	6,448	34,495	5,213	26,551	4,287
Oranges Sweet (Dozens)	11,471	1,786	9,287	1,750	7,115	1,282
Peaches	706,841	32,809	297,878	30,852	777,589	65,074
Pears	67,520	3,249	15,501	1,520	24,757	1,999
Pears Prickly	25,980	255	66,906	685	42,348	448
Plums	38,736	3,389	39,310	5,073	64,015	5,590
Plums Cherry	209,770	11,402	443,919	18,645	367,723	22,418
Pomegranates	65,896	7,621	58,088	1,504	41,285	1,534
Prunes	227	11	227	21	215	12
Strawberries Eng.	47,857	9,744	80,591	20,141	59,151	17,171
Strawberries Local.	298	208	150	146	125	84
Tangerines (Dozens)	11,246	1,279	11,391	1,407	6,216	835
		£150,936		£177,918		£237,854

Price and Quantity Index of Vegetables sold through Pitkaliji

(Base Year - 1960)

Vegetables	1970	
	Qty Index	Price Index
Artichokes (G)	69	330
Artichokes (J)	118	154
Beans Broad	109	124
Beans French	148	137
Beetroot (Unt)	114	126
Bellpepper	149	207
Brocoli	308	111
Brussels Sprouts	-	-
Cabbages	98	214
Carrots (T)	411	292
Carrots (Unt)	126	148
Cauliflowers (T)	11	340
Cauliflowers (Unt)	228	143
Celery	145	143
Centenary	104	210
Chickpeas	84	106
Cucumbers	84	330
Eggplant	136	121
Endive	125	256
Fennels	108	183
Garlic Dry	93	215
Garlic Green	91	270
Gourds	91	139
Kohlrabi	73	177
Leeks	138	136
Lettuce	104	138
Marrows Long	80	140
Marrows Veg.	158	144
Mint Herbs	126	117
Onions Dry	131	137
Onions Green	231	458
Onions Pickles	31	21
Parsley	180	160
Potatoes (Spring)	170	136
Potatoes (Winter)	127	177
Pumpkins	63	232
Peas	43	161
Radishes	956	90
Seakle Beet	34	50
Spinach	86	186
Tomatoes (Eng)	141	231
Tomatoes (R)	140	101
Tomatoes (O)	69	123
Turnips	-	-

TABLE 11

Price and Quantity Index of Fruits sold through Pitkaliji (Base Year - 1960)

1970

Fruits	Qty Index	Price Index
Apples	26	246
Apricots	76	172
Bambinella	56	225
Banana (Heads)	8	180
Blackberries	220	106
Cherries	384	174
Figs Dry	22	191
Figs Early	64	216
Figs Late	64	198
Grapes	64	218
Grape Fruits	125	12
Lemons	182	127
Lemons (Sweet)	-	-
Medlars	61	108
Melons (Sugar)	182	181
Melons (Water)	58	223
Melons (Winter)	121	202
Mulberries	19	152
Nectarines	86	113
Oranges	48	194
Oranges (Sweet)	66	166
Peaches	509	97
Pears	67	136
Pears (Prickly)	70	163
Plums	441	85
Plums (Cherry)	465	87
Pomegranates	25	277
Prunes	106	67
Strawberries (Engl)	160	157
Strawberries (Local)	3	150
Tangerines	35	190
Olives	-	-

Yearly Enumeration of Livestock 1957 - 1969

YEAR	CAPRINES		OVINES		BOVINES		SWINE		EQUINES		POULTRY & RABBITS	
	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO
1957	25,611	13,726	9,204	5,614	7,066	2,661	10,493	2,805	4,955	1,825	244,473	144,042
1958	23,743	13,201	9,233	5,778	7,626	2,172	12,381	3,981	4,748	1,827	252,588	157,307
1959	22,625	13,246	8,649	5,616	7,429	2,107	12,094	2,701	4,587	1,757	249,502	131,840
1960	21,010	13,678	7,909	5,107	7,206	2,172	11,217	2,829	4,422	1,698	264,515	132,513
1961	18,587	12,425	7,190	4,413	6,282	1,809	12,507	3,885	4,290	1,603	264,320	148,983
1963	17,225	13,083	6,424	4,538	6,566	2,013	12,414	3,343	3,978	1,619	280,353	144,283
1964	16,438	12,741	6,518	4,709	6,001	1,986	10,428	2,990	3,833	1,500	322,528	119,769
1965	14,818	11,164	6,419	4,066	5,384	1,874	12,217	2,949	3,582	1,362	355,186	140,383
1966	13,894	10,909	6,205	4,486	6,340	1,797	19,787	3,554	3,464	1,345	305,188	100,814
1967	12,978	10,452	5,694	4,268	6,679	2,170	20,277	3,163	3,373	1,338	329,785	89,369
1968	10,743	9,421	5,183	3,851	7,746	2,104	20,271	3,080	3,210	1,216	604,834	119,840
1969	9,626	9,024	4,926	3,894	6,650	2,199	27,019	4,271	3,146	1,206	538,073	155,305

N.B. No Census was carried out in 1962.

TABLE 12

TABLE 13

STOCK OF IMPORTED CATTLE DURING 1970

Month	Imported Bullocks	Slaughtered			Balance at end of month
		Malta	Gozo	Total	
Balance on 1st January, 1970					2,305
January	279	603	27	630	1,954
February	511	536	22	558	1,907
March	495	465	27	492	1,913
April	444	470	25	495	1,859
May	821	451	24	475	2,205
June	-	298	17	315	1,890
July	421	578	17	595	1,716
August	281	484	14	498	1,499
September	608	493	10	503	1,604
October	302	378	12	390	1,516
November	1,226	366	3	369	2,373
December	1,029	524	2	526	2,876
	6,417	5,646	200	5,846	

Recapitulation:

Stock in hand on 1st January, 1970	2,305
Imported during 1970	6,417
	8,722
Slaughtered during 1970	5,846
Balance on 31st December, 1970	2,876

NUMBER AND WEIGHT IN ROTOLI OF ANIMALS SLAUGHTERED DURING 1970

MONTH	CATTLE		PIGS		SHEEP		LAMBS		GOATS		KIDS		EQUINES		TOTAL	
	No.	Rots.	No	Rots	No.	Rots	No	Rots	No	Rots	No	Rots	No	Rots	No	Rots
(MALTA)																
JANUARY	871	256,061	4,592	403,834	353	13,292	488	4,767	317	7,302	66	332	74	14,650	6,761	700,238
FEBRUARY	712	219,982	4,368	388,867	242	8,686	246	2,410	290	6,497	111	519	77	15,654	6,046	642,615
MARCH	686	209,629	4,581	397,747	342	12,450	195	1,930	253	5,870	229	994	75	14,860	6,361	643,480
APRIL	675	221,965	4,248	374,373	364	13,006	80	744	294	6,753	184	835	57	11,402	5,902	629,078
MAY	686	228,592	4,762	413,538	318	12,461	75	706	256	6,109	195	890	63	12,260	6,355	674,556
JUNE	440	136,764	4,829	429,964	283	11,396	30	295	291	7,088	87	408	58	12,460	6,018	598,375
JULY	792	236,725	5,264	463,072	315	11,750	17	166	337	8,231	62	283	65	13,050	6,852	733,277
AUGUST	711	239,101	4,241	370,662	242	9,470	43	401	253	6,300	58	259	65	13,650	5,613	639,843
SEPTEMBER	711	247,384	4,357	384,050	257	10,111	338	2,895	358	8,548	55	254	80	16,150	6,156	669,392
OCTOBER	661	214,088	4,738	408,751	305	12,352	1,321	12,086	383	9,153	72	326	87	16,870	7,567	673,626
NOVEMBER	623	192,858	4,248	374,196	293	11,489	982	9,354	311	7,597	26	132	77	15,030	6,560	610,656
DECEMBER	795	252,098	5,475	480,325	353	13,978	579	5,482	331	8,028	26	126	72	14,255	7,631	774,292
TOTAL	8,363	2,655,247	55,703	4,889,379	3,667	140,441	4,394	41,236	3,674	87,476	1,171	5,358	850	170,291	77,822	7,989,428
(GOZO)																
JANUARY	69	29,401	332	29,526	9	266	43	374	2	40	-	-	-	-	455	59,607
FEBRUARY	58	19,840	348	31,406	13	390	52	469	5	108	-	-	2	506	478	52,719
MARCH	59	20,608	334	38,394	11	292	34	302	5	112	41	225	-	-	484	59,933
APRIL	61	21,236	331	27,834	2	62	11	88	3	64	15	77	1	156	424	49,517
MAY	70	23,566	366	32,254	2	44	-	-	7	146	8	38	-	-	453	56,048
JUNE	53	15,980	307	27,052	1	46	-	-	4	88	1	4	-	-	366	43,170
JULY	63	20,648	382	34,408	1	26	2	18	4	88	-	-	1	276	453	55,464
AUGUST	49	16,514	287	23,436	6	184	1	10	-	-	-	-	-	-	343	40,144
SEPTEMBER	34	10,810	248	19,517	12	354	7	61	-	-	-	-	-	-	301	30,742
OCTOBER	53	18,432	267	21,942	15	438	122	924	-	-	-	-	-	-	457	41,736
NOVEMBER	43	13,996	219	19,076	11	308	181	1,516	5	104	-	-	1	256	460	35,256
DECEMBER	42	20,788	311	27,684	3	88	89	656	10	240	-	-	-	-	455	49,456
TOTAL	654	231,819	3,732	334,529	86	2,498	542	4,418	45	990	65	344	5	1,194	5,129	573,792

ANIMALS SLAUGHTERED AT THE GOVT. ABATTOIRS IN MALTA AND GOZO

1961 - 1970

YEAR	CATTLE		PIGS		SHEEP		LAMBS		GOATS		KIDS		EQUINES		TOTALS	
	No	Rots	No	Rots	No	Rots	No	Rots	No	Rots	No	Rots	No	Rots	No	Rots
1961	12,242	3,697,800	31,675	2,669,679	6,116	204,491	6,524	59,492	7,600	186,177	1,459	7,280	666	134,435	66,282	6,959,354
1962	12,540	3,862,497	38,202	3,192,017	4,677	160,802	5,787	55,515	6,445	155,293	1,628	9,309	473	98,406	69,752	7,533,839
1963	10,740	3,396,508	38,614	3,211,456	4,094	147,042	5,335	49,884	6,431	163,988	1,543	7,788	488	106,954	67,245	7,083,620
1964	10,160	2,953,973	29,565	2,475,377	5,985	217,036	6,791	64,971	6,790	165,571	1,635	8,875	533	110,176	61,459	5,995,979
1965	9,292	2,916,455	30,492	2,569,607	4,790	177,549	6,416	68,461	7,348	184,262	2,026	10,466	477	99,818	60,441	6,026,618
1966	8,809	2,758,530	36,239	3,096,268	5,758	214,200	5,613	53,202	6,383	162,973	2,783	10,714	337	72,257	65,922	6,368,144
1967	9,679	3,153,659	37.097	3,215,489	4,638	191,777	6,010	56,186	5,490	147,444	2,320	11,387	393	87,992	65,627	6,863,934
1968	10,848	3,458,322	38,161	3,330,142	4,126	153,939	5,523	50,888	5,066	130,842	2,128	10,070	690	153,819	66,542	7,288,022
1969	10,697	3,349,651	47,574	4,181,880	3,870	154,809	3,733	44,731	4,291	78,044	1,706	8,118	838	181,767	72,709	7,999,000
1970	9,017	2,887,066	59,435	5,223,908	3,753	142,939	4,936	45,654	3,669	88,466	1,136	5,702	855	171,485	82,801	8,565,220

TABLE 15

Diseases and other causes of unsoundness of meat during 1970

Disease	Cattle	Pigs	Sheep	Goats	Lambs	Kids	Equines	TOTAL
Fevered Flesh	-	-	-	2	-	-	-	2
Emaciation	-	-	1	-	-	-	-	1
Putrefaction	2	3	-	-	-	-	-	5
Oedaema	1	-	-	-	-	-	-	1
Septicaemia	4	3	3	-	-	-	-	10
TOTALS	7	6	4	2	-	-	-	19

TABLE 16

VACCINATION OF PIGS AND INOCULATION OF POULTRY

1970 MONTH	POULTRY				SWINE			
	Fowl Pest		Fowl Pox		Swine Erysipelas		Swine Fever	
	Malta	Gozo	Malta	Gozo	Malta	Gozo	Malta	Gozo
January	1,822	300	3,394	4,500	279	119	750	5
February	3,125	-	4,363	9,000	156	6	772	71
March	1,554	-	2,886	10,000	61	11	596	116
April	500	-	2,706	9,000	26	110	468	15
May	9,622	-	800	800	111	21	611	11
June	2,950	-	3,996	-	-	-	453	-
July	3,546	-	2,318	500	-	16	427	15
August	818	-	4,260	100	-	31	543	9
September	600	-	3,802	-	-	-	636	-
October	400	-	3,111	-	-	21	725	-
November	756	-	4,274	5,000	200	130	457	70
December	1,962	-	4,757	8,000	613	11	735	-
TOTALS 1970	27,655	300	40,667	47,900	1,446	476	7,173	312
1969	7,507	-	45,299	23,750	14,981	1,192	6,369	883
1968	11,528	25,300	37,357	31,750	6,167	828	19,892	445
1967	5,760	-	62,214	15,000	5,083	1,748	25,093	4,689
1966	24,700	13,200	71,358	34,900	3,509	417	23,430	4,259

Landings of Fresh Fish by Local Boats

1959 - 1970

Year	Weight in Tons	Wholesale value in £	Average wholesale value per ton £
1959	1,040	200,729	193
1960	1,217	226,643	186
1961	1,350	236,601	175
1962	1,317	248,770	189
1963	1,491	283,206	190
1964	1,348	324,094	240
1965	1,279	334,351	261
1966	1,276	319,454	250
1967	1,463	346,009	237
1968	1,180	340,950	289
1969	1,138	320,263	281
1970	1,142	378,266	331

TABLE 19

FISH CAUGHT DURING 1970 (IN ROTOLI)

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
ACCOLA	-	-	-	-	280	624	1,032	1,921	714	-	-	-	4,571
ARZNELL	-	-	7,411	14,422	4,361	732	-	-	-	-	-	-	26,926
HAM/BOLL/RAJ	2,673	750	1,252	3,117	2,713	1,775	2,036	1,576	634	440	1,423	1,264	19,653
CERNA	618	483	758	874	1,716	2,412	2,727	1,264	715	288	427	754	13,031
DENTICI	534	384	664	884	962	934	1,080	750	628	883	1,383	660	9,746
DOTT/HANZIR	928	585	1,528	1,360	2,752	3,004	3,795	1,786	351	-	432	616	17,137
FANFRI	-	-	-	-	-	-	-	-	10,474	10,726	7,260	613	29,073
GALLINI	2,090	-	-	439	321	-	-	-	-	-	-	367	3,217
GAMBLI	3,241	3,184	1,953	3,770	2,823	3,212	2,843	2,992	2,134	3,505	2,811	1,463	33,931
GRINGU	1,320	878	516	1,362	1,541	1,581	1,698	860	-	-	-	699	10,455
GRIEWEL	283	-	-	-	357	-	-	-	-	-	-	-	640
HUTA KAHLA	557	234	1,879	1,666	1,426	867	1,190	-	-	-	-	-	7,759
KAHLI	1,012	-	434	669	2,509	2,144	1,013	699	492	-	-	311	9,283
KAVALLI	1,456	-	5,057	16,224	21,652	18,858	35,867	17,606	7,805	2,150	5,417	711	132,803
KLAMARI	2,614	897	929	2,460	596	302	798	225	-	-	-	526	9,347
LACCI	-	-	-	-	5,949	10,466	4,849	1,291	-	-	-	-	22,555
LAMPUKI	-	-	-	-	-	-	-	1,420	71,449	182,626	94,127	3,118	352.740
MAKKU	-	-	-	-	-	-	3,424	8,011	4,926	-	-	-	16,361
MAZZOLA	3,546	1,256	2,476	5,817	5,129	5,267	4,574	2,722	917	606	1,541	1,258	35,109
MERLUZZI	-	-	-	-	465	583	961	399	-	-	-	-	2,408
MULETTI	294	-	388	436	1,216	850	1,244	783	337	639	569	-	6,756
MUNQARA	4,652	5,232	4,009	10,370	5,318	6,640	2,801	1,213	1,100	1,590	1,638	2,545	47,108
PAGELL	2,582	2,360	1,027	1,392	2,106	789	1,426	558	-	-	330	2,247	14,817
PAGRU	-	-	-	426	352	409	291	540	-	-	-	-	2,018
PIXXIPLAMTU	270	-	-	445	237	-	-	-	-	-	-	-	952
PIXXISPAD	-	-	-	-	2,756	16,921	31,805	11,891	-	-	-	-	63,373
QARNIT	4,010	2,145	1,769	1,509	2,487	2,544	2,144	850	875	2,595	2,178	1,951	25,057
SARGU	319	293	610	882	988	769	1,017	834	436	-	-	-	6,148
SAWRELL	21,695	18,988	21,542	12,330	17,475	48,103	37,063	27,270	12,024	6,998	10,886	28,356	262,730
SIRRAN	558	-	442	-		-	-	-	-	-		1,070	2,070
SKORFON	-	-	-	-	-	-	1,182	381	-	-	-	-	1,563
SICC	-	-	-	632	890	459	331	-	-	-	-	-	2,312
SARDIN	-	-	-	-	-	-	852	-	-	-	-	-	852
TONN	-	665	-	-	587	1,476	1,321	-	-	-	-	1,974	6,023
TONNAGGI	-	-	-	-	-	-	-	-	15,903	7,144	2,625	-	25,672

TABLE 19
(continued)

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
TRILL	1,815	1,462	1,224	2,596	1,106	1,818	1,162	738	314	-	-	-	12,235
TUMBRELLI	923	8,287	6,784	943	488	343	-	-	-	-	-	4,244	22,012
VOPI	16,592	3,812	10,082	3,567	12,519	16,506	27,941	19,778	8,687	14,219	22,807	20,408	177,918
XILEP	-	-	243	-	494	487	437	922	903	672	292	-	4,450
XKATLU	-	-	323	-	-	-	372	511	-	-	-	-	1,206
ZAGHRUN	-	-	476	1,095	1,496	1,915	2,465	-	-	-	-	-	7,447
HUT IEHOR	919	2,037	704	961	888	1,324	741	843	254	1,037	-	2,944	12,652
	75,501	53,932	74,475	90,648	106,955	154,054	182,482	110,634	143,072	236,118	156,146	78,099	1,462,116

Availability and Prices of Fresh Fish - 1969 and 1970

YEAR	LOCAL				IMPORTED				TOTAL QUANTITY RTAL
	QUANTITY RTAL	WHOLESALE VALUE £	RETAIL VALUE £	AVERAGE RET. PRICE PER RATAL	QUANTITY RTAL	WHOLESALE VALUE £	RETAIL VALUE £	AVERAGE RET. PRICE PER RATAL	
1969									
January	102,681	19,595	25,910	5/1	1,500	334	469	6/3	104,181
February	66,580	14,288	18,271	5/6	17,320	3,245	4,546	5/3	83,900
March	91,748	17,936	23,924	5/3	20,224	3,825	5,562	5/6	111,972
April	87,224	18,178	23,664	5/5	12,133	2,499	3,539	5/10	99,357
May	132,253	22,424	31,128	4/9	594	293	326	11/-	132,947
June	116,778	19,216	27,651	4/9	3,053	984	1,272	8/4	119,831
July	169,116	30,577	41,968	5/-	9,141	2,575	3,390	7/5	178,257
August	107,273	19,964	27,266	5/1	2,887	989	1,300	8/-	110,160
September	136,391	35,375	44,574	6/8	5,667	1,506	1,983	7/-	142,058
October	227,918	67,492	81,481	7/2	8,767	2,556	3,288	7/6	236,685
November	150,618	41,613	50,771	6/9	650	250	293	9/-	151,268
December	68,121	13,605	17,093	5/-	1,770	316	472	5/4	69,891
TOTAL	1,456,701	320,263	413,701	-	83,706	19,369	26,440	-	1,540,407
1970									
January	75,501	16,791	21,993	5/10	3,055	876	1,070	7/-	78,556
February	53,932	14,274	17,917	6/8	6,477	2,211	2,645	8/2	60,409
March	74,475	19,309	24,806	6/8	3,712	1,296	1,624	8/9	78,194
April	90,648	22,847	29,540	6/6	3,910	352	652	3/4	94,558
May	106,955	29,111	37,444	7/-	3,158	1,074	1,368	8/8	110,113
June	154,054	32,231	42,993	7/7	3,671	968	1,283	7/-	157,725
July	182,482	44,084	55,157	6/-	880	198	275	6/3	183,362
August	110,634	24,196	31,552	5/8	1,768	775	884	10/-	112,402
September	143,072	45,761	55,213	7/8	10,363	3,328	3,972	7/8	153,435
October	236,118	72,734	87,411	7/5	3,214	738	964	6/-	239,332
November	156,146	41,081	51,405	6/7	1,879	523	642	6/10	158,025
December	78,099	16,464	21,319	5/5	3,438	698	1,031	6/-	81,537
TOTAL	1,462,116	378,803	479,750	-	45,525	13,057	16,410	-	1,507,641

Financial Assistance to Farmers under Act II of 1956 up to December, 1970

Purpose	No of Cases	Loans £	Grants £	Total £
Glasshouses	242	158,477	93,984	252,461
Troughs for Glasshouses	1	399	266	665
Boilers for Glasshouses	2	3,860	2,575	6,435
Heaters for Glasshouses	5	1,210	806	2,016
Poultry Units	110	74,369	30,246	104,615
Turkey Farm	1	2,298	1,531	3,829
Pig Units	23	13,775	5,940	19,715
Overhead Irrig. Equip.	219	33,124	33,731	66,855
Overhead Irrig. Equip.& Rotary Cultivators	52	12,332	7,093	19,425
Grinding Mill & Milkers & Ancillary Equipment	1	150	150	300
Rotary Cultivators	827	230,565	64,730	295,295
Mist Sprayers	8	430	-	430
Water Pumps	12	2,298	-	2,298
Rotary Cultivators and Pumps	5	2,085	-	2,085
Rotary Cultivators and Mist Sprayers	4	1,860	-	1,860
Cowsheds & Fodder Store	29	17,252	-	17,252
Repayments of Debts	59	34,626	-	34,626
Fodder & Fertilizers	35	5,831	-	5,831
Vans and Trucks	13	5,627	-	5,627
Purchase of Livestock	40	26,360	-	26,360
Purchase of Land	4	6,100	-	6,100
Cloches	1	662	441	1,103
Repairs to & Const. of Water Reservoirs	65	14,785	9,856	24,641
Repairs to Farmhouses	52	5,542	3,688	9,230
Extension to Electricity Mains	8	392	260	652
Extension to Water Mains	5	157	104	261
Grants for Calf-Pens and Calving Boxes	128	-	6,720	6,720
Miscellaneous	17	6,198	-	6,198
Assistance to Co-op Soc.				
(a) Truck	1	382	255	637
(b) Rotary Cultivator and Sprayer	1	92	60	152
(c) Const. of Winery	1	24,000	16,000	40,000
(d) Construction of Provender Mill	1	23,099	15,399	38,498
	1,972	£708,337	£293,835	£1,002,172

(a) Dingli Farmers' Co-operative Society

(b) Safi Agric. Equipment Co-operative Society

(c) Farmers' Wine Co-operative Society

(d) Malta Milk Producers Co-operative Society

Financial Assistance to Fishermen under Act II of 1956

1. Construction of large craft

Year	Beneficiaries	Loans	Grants
		£	£
1956-1965	27	104,707	37,887
1966	2	2,193	1,312
1967	8	18,681	11,207
1968	3	7,625	4,625
1969	-	-	-
1970	3	8,550	5,048

2. Purchase of Equipment, etc.

1956-1965	42	12,748	2,516
1966	8	1,936	773
1967	6	1,106	444
1968	2	985	394
1969	2	1,292	517
1970	1	746	447

3. Replacement of Engines

1956-1965	54	23,469	11,868
1966	4	803	1,216
1967	12	2,572	2,782
1968	8	1,420	1,919
1969	2	-	832
1970	-	-	-

4. Modification to craft & acquisition of second-hand boats

1956-1965	27	20,480	2,915
1966	5	2,078	1,220
1967	9	4,365	2,571
1968	6	4,569	2,415
1969	6	6,003	2,795
1970	6	5,761	3,456
TOTALS	243	£232,089	£99,159

ORDINARY AND SPECIAL EXPENDITURE 1965 - 1971

i) ORDINARY EXPENDITURE 1965/71

	A. PERSONAL EMOLUMENTS						B. OTHER CHARGES					
	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ACTUAL 1968/69	ACTUAL 1969/70	ACTUAL 1970/71	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ACTUAL 1968/69	ACTUAL 1969/70	ACTUAL 1970/71
Office	20,932	20,635	17,141	27,922	32,237	38,972	-	-	-	-	-	-
Advisory Service	6,814	6,797	6,016	7,159	9,618	11,143	1,791	1,831	1,909	1,158	1,948	2,088
Government Farm	5,453	4,776	5,040	6,654	8,149	9,031	38,266	37,657	37,824	39,236	39,970	44,343
Gardens, Plantations and Afforestactions.	31,881	30,138	32,440	33,674	36,970	35,862	29,437	32,596	33,682	36,699	39,474	45,604
Plant Pathology, Viticulture and Oenology	1,871	1,573	1,249	1,370	2,302	4,768	11,459	12,645	11,276	12,829	13,178	14,962
Marketing	6,400	6,355	6,280	6,961	7,078	10,521	1,697	1,748	1,599	2,006	2,139	1,849
Veterinary Service	17,880	18,235	19,052	23,263	28,450	29,864	7,176	6,787	7,076	9,446	23,930	19,746
Fisheries	13,668	13,305	14,264	16,272	19,680	20,093	20,935	21,232	18,165	21,634	22,161	22,901
General Services	-	-	-	-	-	-	15,019	16,019	16,803	20,841	30,013	31,124
Subsidies	-	-	-	-	-	-	78,158	100,355	79,254	97,679	101,511	98,016
	104,899	101,814	101,482	123,295	144,484	166,024	203,938	230,870	207,598	242,269	274,324	280,633

TABLE 23

ii) SPECIAL EXPENDITURE 1965/71

ACTUAL 1965/66

Purchase of Livestock	: £	877
Training of a Veterinary Surgeon	:	123
Grants to Fishermen	:	19,290
Repairs to Public Gardens	:	997
Electric Unit for Gozo Abattoir	:	49
Purchase of a duplicator	:	82
Adaptation Works of Premises at it-Tokk Gozo	:	467
		£21,885

ACTUAL 1966/67

Purchase of livestock for Government Farm	:	548
Repairs to Public Gardens	:	4,981
Expenses in connection with 2nd Session of the Working Party of the Water Resources and Irrigation of European Commission on Agriculture	:	521
Repairs to Elec. Installation at Civil Abattoir	:	5,983
Installation of an electric Ref. Plant at Civil Abattoir	:	683
Centralization of nurseries at Tal-Kmand	:	144
Purchase of Two Typewriters	:	63
Provision for wire enclosure at Livestock Centre, Gozo	:	200
		£13,123

ACTUAL 1967/68

Purchase of Livestock for Government Farm	:	1,344
Repairs to Public Gardens	:	4,960
Expenses in connection with Research	:	300
Repairs to elec. installation in Civil Abattoir, Malta	:	630
Installation of an Elec. Refrig. at Civil Abattoir, Gozo	:	167
Centralization of nurseries at Tal-Kmand	:	142
Purchase of a bowser	:	2,175
Construction of an animal shed at the Civil Abattoir	:	1,706
		£11,424

ACTUAL 1968/69

Purchase of Livestock for Government Farm	: £	2,933
Repairs to Public Gardens	:	8,011
Expenses in connection with Stray Dogs	:	553
Purchase of 1 bowser	:	725
Construction of shed at Civil Abattoir	:	383
Cold room at Luqa Airport	:	391
Replacement of an estate car	:	514
		£13,510

ACTUAL 1969/70

Purchase of Livestock for Government Farm	: £	2,857
Repairs to Public Gardens	:	10,131
Expenses in connection with stray dogs	:	756
Cold Room at Luqa Airport	:	2,352
Purchase of flaying equipment	:	780
Purchase of 4 typewriters	:	182
Centralization of Nurseries - Gozo	:	2,184
Purchase of incinerator for Gozo	:	200
Expenses in connection with German Fertilizer	:	422
Supply of Rotary cultivator	:	30
Replacement of Estate Car	:	350
		£20,244

ACTUAL 1970/71

Purchase of Livestock for Government Farm	: £	23
Repairs to Public Gardens	:	4,984
Expenses in connection with control of stray dogs	:	549
Replacement of Vehicles	:	4,656
Purchase of truck for Gozo	:	2,050
Purchase of Bowsers	:	270
Purchase of 1 Rotary Cultivator - Gozo	:	295
Expenses in connection with European Conservation year	:	250
Extension of Water and Elec. to New Building at Government Farm	:	500
Building of a Fodder Shed and Potatoes Packing Station	:	936
		£14,513

iii) E. CO-OPERATIVES - 1965/71

	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ACTUAL 1968/69	ACTUAL 1969/70	ACTUAL 1970/71
Personal Emoluments :	£ 2,361	£ 2,356	£ 2,241	£ 2,581	£ 2,906	£ 6,411
Other Charges :	6,996	6,368	7,080	6,859	8,090	11,863
Special Expenditure :	-	-	-	-	-	-
	£ 9,357	£ 8,724	£ 9,321	£ 9,440	£10,996	£18,274

iv) F. PITKALI MARKETS 1965/71

Personal Emoluments :	£20,179	£20,643	£20,260	£24,277	£25,315	£32,619
Other Charges :	£ 3,185	£ 3,938	£ 3,919	£ 4,518	£ 5,563	£ 4,910
Special Expenditure :	-	£ 2,000 **	-	-	-	-
	£23,364	£26,581	£24,179	£28,795	£30,878	£37,529

** Grant to the Gozo and Agricultural Producers Co-operative Society Limited

TABLE 23 (continued)

CAPITAL EXPENDITURE

AGRICULTURE AND FISHERIES

Details of Expenditure	Actual Expenditure 1959/64	Actual Expenditure 1964/69	Plan Estimate 1969/74	Actual Expenditure 1969/70	Actual Expenditure 1970/71
	£	£	£	£	£
AGRICULTURE					
1. Afforestation, plantations and nurseries	98,850	64,942	50,400	15,354	19,635
2. Development of horticulture	-	191,781	106,100	26,100	27,074
3. Development of viticulture	-	16,677	19,800	4,867	5,610
4. Equipping Agricultural Laboratories	-	12,526	16,900	6,924	972
5. Centralisation of Vegetable Markets	-	20,991	184,200	34,191	1,080
6. Modernization of Civil Abattoir (Malta)	17,696	22,572	300,100	10,081	10,334
7. Assistance to Farm Development	-	-	525,100	115,109	127,127
8. Collection of run-off water	-	-	38,900	13,932	7,813
9. Modernisation of Government farms in Malta and Gozo	-	-	26,800	5,755	5,960
10. Animal Disease Eradication Scheme	137,984	67,636	35,000	-	19,936
Total Agriculture	254,530	397,125	1,303,300	232,313	225,541
FISHERIES					
11. Assistance to Fishing Development	52,828	110,009	111,800	23,761	26,666
12. Experimental fishing equipment and research	-	-	9,900	1,940	1,982
13. Improvements to Fishing Harbours	-	-	40,000	1,831	3,808
14. Financial Assistance to Fishermen for equipment	-	-	16,800	825	-
Total Fisheries	52.828	110,009	178,500	28,357	32,457
Completed Schemes 1959/64	394,504	-	-	-	-
Completed Schemes 1964/69	-	845,869	-	-	-
Completed Scheme 1969/74 (Dredging Works at Marsaxlokk)	-	-	-	99	-
Total Completed Schemes	394,504	845,869	-	99	-
Total Agriculture and Fisheries	701,862	1,353,003	1,481,800	260,769	257,997

TABLE 24

	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ACTUAL 1968/69	ACTUAL 1969/70	ACTUAL 1970/71
VII A FEES OF OFFICE						
31. Abattoir Fees	15,078	16,124	16,889	17,656	20,231	20,502
32. Licences, certificates, etc.	392	477	558	1,174	509	1,788
(Fees for fish-hawkers and badges)	12	7	9	-	-	-
(Permits and licences)	40	49	42	-	-	-
	15,522	16,657	17,498	18,830	20,740	22,290
VII B REIMBURSEMENTS						
74. Sale of Vegetables from Govt. Farm	2,728	3,913	4,193	2,774	2,725	1,944
75. Sale of Livestock from Govt. Farm	3,200	3,617	3,645	3,997	1,642	1,392
76. Sale of dairy produce, honey etc.	2,897	3,654	3,340	5,374	4,943	4,315
77. Sale of trees, plants, rootlings, etc.	1,934	1,940	2,439	2,520	2,647	3,630
78. Sale of fruits from public gardens	2,515	3,533	2,328	3,353	1,856	2,531
79. Artificial insemination	-	-	-	-	-	463
80. Sale of hatching eggs and poultry	5,450	3,667	5,298	2,842	2,991	1,589
81. Inspection of Agricultural produce	256	417	1,280	544	564	344
82. Service to 3rd Parties	2,507	2,127	1,661	2,273	1,844	2,607
83. Maint'ce of dogs kept under observation	254	175	315	662	1,248	2,102
84. Sale of poultry vaccine	161	221	243	75	-	-
85. Sale of fishing equipment	7,569	8,855	8,966	8,255	10,211	11,463
86. Commission on sales of imported fish	-	-	-	245	327	233
97. Miscellaneous	1,239	1,038	1,256	2,367	1,905	1,371
	30,710	33,157	34,964	35,281	32,903	33,984
XII INTEREST						
4. Interest on Loans	2,499	3,416	5,113	5,994	6,315	5,384
XIII PENSION CONTRIBUTIONS						
1. Contributions under W. & O. Act, 1927	1,226	1,171	1,155	1,289	890	1,195
XVI MISCELLANEOUS RECEIPTS						
2. Miscellaneous	23	578	487	3,925	1,139	6
4. Repayment of Loans	35,247	34,133	64,698	61,169	58,487	68,136
	35,270	34,711	65,185	65,094	59,626	68,142
SUMMARY						
VII : A. Fees of Office	15,522	16,657	17,498	18,830	20,740	22,290
B. Reimbursements	30,710	33,157	34,964	35,281	32,903	33,984
XII : Interest	2,499	3,416	5,113	5,994	6,315	5,384
XIII : Widows & Orphans Pensions Act 1927	1,226	1,171	1,155	1,289	890	1,195
XVI : Miscellaneous Receipts	35,270	34,711	65,185	65,094	59,626	68,142
	85,227	89,112	123,915	126,488	120,474	130,995

Staff as on 31st December, 1970

Director of Agriculture and Fisheries	1

Administrative, Executive and Clerical

Senior Administrative Officer	1
Administrative Officer	4
Higher Executive Officer	3
Senior Clerical Officer	3
Higher Clerical Officer	16
Store Officer I	1
Clerical Officer	55
Clerk Typist	42
Storehouseman	1
	126

Technical and Departmental

Principal Technical Officer	2
Senior Agricultural Officer	2
Plant Pathologist (Consultant)	1
Agricultural Chemist	1
Horticulturist	1
Viticulturist and Enologist	1
Superintendent of Government Farm	1
Veterinary Surgeon	2
Superintendent of Public Gardens	1
Vocational Training Officer	1
Agricultural Economist	1
Junior Agricultural Chemist	1
Agricultural Officer	2
Horticultural Officer	1
Afforestation Officer	1
~~Agricultural~~ Technical Assistants (Fisheries)	2
Agricultural Marketing Officer	1
Senior Fisheries Officer	2
Senior Inspector of Co-operatives	2
Lands Officer	1
Information Officer	2
Poultryman	1
Inspector of Agricultural Produce	2
Agricultural Assistant	4
Fisheries Officer	9
Veterinary Assistant	5
Assistant Livestock Officer	1
Senior Weighing Officer	1
Farm Supervisor	1
Head Gardener	5
Temporary Agricultural Inspector	14
Weighing Officer	9
Livestock Assistant	1
Senior Butcher	1
Supervisor Government Farm Garage	1
Butcher	13
Stamping Officer	2
	99

Messengerial and Cleaning

Messenger	3
Office Attendant	9
Charwoman	6
	18

Tradesmen, Labourers and Watchmen

Fitter	6
Carpenter I	2
Handyman I	1
Head Operative (Plant Protection)	2
Miner II	7
Despatch Rider	1
Assistant Head Gardener	4
Laboratory Attendent	3
Handyman II	3
Station Attendant	2
Stockman	1
Gardener	45
Timekeeper	1
Telephone Attendant	3
Farm Operative I	5
Motor Transport Driver	23
Operative (Plant Protection)	4
Driver (light plant)	1
Assistant Head Operative (Plant Protection)	3
Stoker II	2
Farm Operative II	12
Assistant Gardener	4
Skilled Labourer	71
Storeman	1
Engine Driver II	1
Junior Foreman	1
Caretaker	1
Gatekeeper and Guard	3
Servant	1
Watchman	14
Part-time Watchman	14
Labourer	101
Latrine Attendant (Female)	1
Apprentice	7
	351

M/V Hannibal Crew

Skipper	1
Capopesca	1
Fisherman	4
First Engine Driver	1
Second Engine Driver	1
	8

Grand Total 602